SEQUENCE LISTING

<110> Agarwal, Pankaj
      Lee, Judithann M.
      Smith, Randall F.
      White, John R.

<120> NOVEL COMPOUNDS

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<141> 2003-09-12

<150> 60/213,161
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<150> 10/312,088
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<211> 1359
<212> DNA
<213> Homo sapiens
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<400> 15
atgttgagat tctacttatt catcagtttg ttgtgcttgt caagatcaga cgcagaagaa 60
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acatgtcctt cattcaccag gctgagcttt cacagtgcag tggttggtac gggactaaat 120
gtgaggctga tgctctacac aaggaaaaac ctgacctgcg cacaaaccat caactcctca 180
gcttttggga acttgaatgt gaccaagaaa accaccttca ttgtccatgg attcaggcca 240
acaggctccc ctcctgtttg gatggatgac ttagtaaagg gtttgctctc tgttgaagac 300
atgaacgtag ttgttgttga ttggaatcga ggagctacaa ctttaatata tacccatgcc 360
tctagtaaga ccagaaaagt agccatggtc ttgaaggaat ttattgacca gatgttggca 420
gaaggagctt ctcttgatga catttacatg atcggagtaa gtctaggagc ccacatatct 480
gggtttgttg gagagatgta cgatggatgg ctggggagaa ttacaggcct cgaccctgca 540
ggccctttat tcaacgggaa acctcaccaa gacagattag atcccagtga tgcgcagttt 600
gttgatgtca tccattccga cactgatgca ctgggctaca aggagccatt aggaaacata 660
gacttctacc caaatggagg attggatcaa cctggctgcc ccaaaacaat attgggagga 720
tttcagtatt ttaaatgtga ccaccagagg tctgtatacc tgtacctgtc ttccctgaga 780
gagagctgca ccatcactgc gtatccctgt gactcctacc aggattatag gaatggcaag 840
tgtgtcagct gcggcacgtc acaaaaagag tcctgtcccc ttctgggcta ttatgctgat 900
aattggaaag accatctaag ggggaaagat cctccaatga cgaaggcatt ctttgacaca 960
gctgaggaga gcccattctg catgtatcat tactttgtgg atattataac atgggacaag 1020
aatgtaagaa gaggggacat taccatcaaa ttgagagaca aagctggaaa cacccacaga 1080
tccaaaatca tcagtaatga acccaccaca tttcagaaat atcaccaagt gagtctactt 1140
gcaagattta atcaagatct ggataaagtg gctgcaattt ccttgatgtt ctctacagga 1200
tctctaatag gcccaaggta caagctcagg attctccgaa tgaagttaag gtcccttgcc 1260
catccggaga ggcctcagct gtgtcggtat gatcttgtcc tgatggaaaa cgttgaaaca 1320
gtcttccaac ctattctttg cccagagttg cagttgtaa   1359

<210> 16
<211> 1353
<212> DNA
<213> Homo sapiens

<400> 16
atggggctcc ggagccacca cctcagcctg ggccttctgc ttctgtttct actccctgca 60
gagtgcctgg gagctgaggg ccggctggct ctcaagctgt tccgtgacct ctttgccaac 120
tacacaagtg ccctgagacc tgtggcagac acagaccaga ctctgaatgt gaccctggag 180
gtgacactgt cccagatcat cgacatggat gaacggaacc aggtgctgac cctgtatctg 240
tggatacggc aggagtggac agatgcctac ctacgatggg accccaatgc ctatggtggc 300
ctggatgcca tccgcatccc cagcagtctt gtgtggcggc agacatcgt actctataac 360
aaagccgacg cgcagcctcc aggttccgcc agcaccaacg tggtcctgcg ccacgatggc 420
gccgtgcgct gggacgcgcc ggccatcacg cgcagctcgt ccgcgtgga tgtagcagcc 480
ttccgttcg acgcccagca ctgcggcctg acgttcggct cctggactca ggcgggcac 540
caactggatg tgcggccgcg cggcgctgca gccagcctgg cggacttcgt ggagaacgtg 600
gagtggcgcg tgctgggcat gccggcgcgg cggcgcgtgc tcacctacgg ctgctgctcc 660

```
gagccctacc ccgacgtcac cttcacgctg ctgctgcgcc gccgcgccgc cgcctacgtg 720
tgcaacctgc tgctgccctg cgtgctcatc tcgctgcttg cgccgctcgc cttccacctg 780
cctgccgact caggcgagaa ggtgtcgctg ggcgtcaccg tgctgctggc gctcaccgtc 840
ttccagttgc tgctggccga gagcatgcca ccggccgaga gcgtgccgct catcgggaag 900
tactacatgg ccactatgac catggtcaca ttctcaacag cactcaccat ccttatcatg 960
aacctgcatt actgtggtcc cagtgtccgc ccagtgccag cctgggctag ggccctcctg 1020
ctgggacacc tggcacgggg cctgtgcgtg cgggaaagag gggagccctg tgggcagtcc 1080
aggccacctg agttatctcc tagcccccag tcgcctgaag gaggggctgg cccccagcg 1140
ggcccttgcc acgagccacg atgtctgtgc cgccaggaag ccctactgca ccacgtagcc 1200
accattgcca ataccttccg cagccaccga gctgcccagc gctgccatga ggactggaag 1260
cgcctggccc gtgtgatgga ccgcttcttc ctggccatct tcttctccat ggccctggtc 1320
atgagcctcc tggtgctggt gcaggccctg tga                                 1353


<210> 17
<211> 768
<212> DNA
<213> Homo sapiens


<400> 17
atggttaagg gtgagaaagg ccccaagggc aagaagatca ccctcaaggt ggccaggaat 60
tgcatcaaaa tcacttttga tgggaaaaag cgccttgact tgagcaagat gggaattacc 120
accttcccca agtgtattct gcgccttagt gacatggacg agctggacct tagccggaat 180
cttatcagga agatccctga ctccatctcc aagttccaga acctccggtg gctggacctg 240
cacagcaact acatagacaa gctgcctgag tccattggcc agatgaccag cctgctctac 300
ctcaacgtca gcaacaaccg gctgaccagc aacgggctgc ccgtggagct gaagcaactc 360
aagaacatcc gcgctgtgaa cctaggcttg aaccacctgg acagcgtgcc caccacactg 420
ggggccctga aggagctcca cgaggtaggg ctccatgaca acctactgaa caacatcccc 480
gtgagcatct ccaagctccc caagctgaaa aagctcaaca taaagcggaa ccccttccca 540
aagccaggtg agtcggaaat attcatagac tccatcagga ggctggagaa cttgtatgtt 600
gtggaggaga aggatctgtg tgcggcttgc ctgagaaaat gccaaaacgc ccgggacaac 660
ctgaatagaa tcaagaacat ggccacgacg acaccgagaa agaccatctt cccaatctg 720
atctcaccca attccatggc caaggactcc tgggaagact ggaggtga                 768


<210> 18
<211> 645
<212> DNA
<213> Homo sapiens


<400> 18
atgcaggcag gaactcagtc aacgcatgag tctctgaagc ctcagagggt acaatttcag 60
```

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tcccgaaatt ttcacaacat tttgcaatgg cagcctggga gggcacttac tggcaacagc 120
agtgtctatt ttgtgcagta caaaatatat ggacagagac aatggaaaaa taaagaagac 180
tgttggggta ctcaagaact ctcttgtgac cttaccagtg aaacctcaga catacaggaa 240
ccttattacg ggagggtgag ggcggcctcg gctgggagct actcagaatg gagcatgacg 300
ccgcggttca ctccctggtg ggaaacaaaa atagatcctc cagtcatgaa tataacccaa 360
gtcaatggct ctttgttggt aattctccat gctccaaatt taccatatag ataccaaaag 420
gaaaaaaatg tatctataga agattactat gaactactat accgagtttt tataattaac 480
aattcactag aaaaggagca aaaggtttat gaaggggctc acagagcggt tgaaattgaa 540
gctctaacac cacactccag ctactgtgta gtggctgaaa tatatcagcc catgttagac 600
agaagaagtc agagaagtga agagagatgt gtggaaattc catga              645


<210> 19
<211> 696
<212> DNA
<213> Homo sapiens


<400> 19
atgatgccta aacattgctt tctaggcttc ctcatcagtt tcttccttac tggtgtagca 60
ggaactcagt caacgcatga gtctctgaag cctcagaggg tacaatttca gtcccgaaat 120
tttcacaaca ttttgcaatg gcagcctggg agggcactta ctggcaacag cagtgtctat 180
tttgtgcagt acaaaatata tggacagaga caatggaaaa ataaagaaga ctgttggggt 240
actcaagaac tctcttgtga ccttaccagt gaaacctcag acatacagga accttattac 300
gggagggtga gggcggcctc ggctgggagc tactcagaat ggagcatgac gccgcggttc 360
actccctggt gggaaacaaa atagatcct ccagtcatga atataaccca agtcaatggc 420
tctttgttgg taattctcca tgctccaaat ttaccatata gataccaaaa ggaaaaaaat 480
gtatctatag aagattacta tgaactacta taccgagttt ttataattaa caattcacta 540
gaaaaggagc aaaaggttta tgaaggggct cacagagcgg ttgaaattga agctctaaca 600
ccacactcca gctactgtgt agtggctgaa atatatcagc ccatgttaga cagaagaagt 660
cagagaagtg aagagagatg tgtggaaatt ccatga                         696


<210> 20
<211> 792
<212> DNA
<213> Homo sapiens


<400> 20
atgatgccta aacattgctt tctaggcttc ctcatcagtt tcttccttac tggtgtagca 60
ggaactcagt caacgcatga gtctctgaag cctcagaggg tacaatttca gtcccgaaat 120
tttcacaaca ttttgcaatg gcagcctggg agggcactta ctggcaacag cagtgtctat 180
tttgtgcagt acaaaatcat gttctcatgc agcatgaaaa gctctcacca gaagccaagt 240
```

```
ggatgctggc agcacatttc ttgtaacttc ccaggctgca gaacattggc taaatatgga 300
cagagacaat ggaaaaataa agaagactgt tggggtactc aagaactctc ttgtgacctt 360
accagtgaaa cctcagacat acaggaacct tattacggga gggtgagggc ggcctcggct 420
gggagctact cagaatggag catgacgccg cggttcactc cctggtggga aacaaaaata 480
gatcctccag tcatgaatat aacccaagtc aatggctctt tgttggtaat tctccatgct 540
ccaaatttac catatagata ccaaaaggaa aaaatgtat  ctatagaaga ttactatgaa 600
ctactatacc gagtttttat aattaacaat tcactagaaa aggagcaaaa ggtttatgaa 660
ggggctcaca gagcggttga aattgaagct ctaacaccac actccagcta ctgtgtagtg 720
gctgaaatat atcagcccat gttagacaga agaagtcaga gaagtgaaga gagatgtgtg 780
gaaattccat ga                                                    792
```

<210> 21
<211> 780
<212> DNA
<213> Homo sapiens

<400> 21
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atgtatgtat tatctccagt ggaatttata attctacaac ttttatttat tcaggccatt 60
tccagcagtt taaaaggttt cctttcagct atgagactgg ctcatagagg ctgtaatgtt 120
gatacaccag tttcaacgct cacaccagtg aagacttcag aatttgaaaa ctttaaaact 180
aaaatggtta tcacatccaa aaaagactat cctctaagta agaattttcc atattccttg 240
gaacatcttc agacttctta ctgtgggctt gtccgagttg atatgcgtat gctttgctta 300
aaaagcctta ggaaattaga cttgagtcac aaccatataa aaaagcttcc agctacaatt 360
ggagacctca tacaccttca agaacttaac ctgaatgaca atcacttgga gtcatttagt 420
gtagccttgt gtcattctac actccagaag tcacttcgga gtttggacct cagcaagaac 480
aaaatcaagg cactccctgt gcagttttgc cagctccagg aacttaagaa tttaaaactt 540
gacgataatg aattgattca atttccttgc aagataggac aactaataaa ccttcgcttt 600
ttgtcagcag ctcgaaataa gcttccattt ttgcctagtg aatttagaaa tttatccctt 660
gaatacttgg atctttttgg aaatactttt gaacaaccaa aagtccttcc agtaataaag 720
ctgcaagcac cattaacttt attggaatct tctgcacgaa ccatattaca taataggtaa 780
```

<210> 22
<211> 1251
<212> DNA
<213> Homo sapiens

<400> 22
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atgaagctac actgtgaggt ggaggtgatc agccggcact tgcccgcctt ggggcttagg 60
aaccggggca agggcgtccg agccgtgttg agcctctgtc agcagacttc caggagtcag 120
```

```
ccgccggtcc gagccttcct gctcatctcc accctgaagg acaagcgcgg gacccgctat 180
gagctaaggg agaacattga gcaattcttc accaaatttg tagatgaggg gaaagccact 240
gttcggttaa aggagcctcc tgtggatatc tgtctaagta aggccatttc cagcagttta 300
aaaggtttcc tttcagctat gagactggct catagaggct gtaatgttga tacaccagtt 360
tcaacgctca caccagtgaa gacttcagaa tttgaaaact ttaaaactaa aatggttatc 420
acatccaaaa aagactatcc tctaagtaag aattttccat attccttgga acatcttcag 480
acttcttact gtgggcttgt ccgagttgat atgcgtatgc tttgcttaaa aagccttagg 540
aaattagact tgagtcacaa ccatataaaa aagcttccag ctacaattgg agacctcata 600
caccttcaag aacttaacct gaatgacaat cacttggagt catttagtgt agccttgtgt 660
cattctacac tccagaagtc acttcggagt ttggacctca gcaagaacaa aatcaaggca 720
ctccctgtgc agttttgcca gctccaggaa cttaagaatt taaaacttga cgataatgaa 780
ttgattcaat ttccttgcaa gataggacaa ctaataaacc ttcgcttttt gtcagcagct 840
cgaaataagc ttccattttt gcctagtgaa tttagaaatt tatcccttga atacttggat 900
ctttttggaa atactttga acaaccaaaa gtccttccag taataaagct gcaagcacca 960
ttaactttat tggaatcttc tgcacgaacc atattacata ataggaatag gattccatat 1020
ggctctcata tcattccatt ccatctctgc caagatttgg ataccgcaaa aatttgtgtt 1080
tgtggaagat tctgtctgaa ctctttcatt caaggaacta ctaccatgaa tctgcattct 1140
gttgcccaca ctgtggtctt agtagataat ttgggtggta ctgaagcacc tattatctct 1200
tatttctgtt ctctaggctg ttatgttaat tcctctgata tgttaaagta a       1251
```

<210> 23
<211> 461
<212> PRT
<213> Homo sapiens

<400> 23
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Met Leu Gly Ile Trp Ile Val Ala Phe Leu Phe Phe Gly Thr Ser Arg
1               5                   10                  15
Gly Lys Glu Val Cys Tyr Glu Arg Leu Gly Cys Phe Lys Asp Gly Leu
            20                  25                  30
Pro Trp Thr Arg Thr Phe Ser Thr Glu Leu Val Gly Leu Pro Trp Ser
        35                  40                  45
Pro Glu Lys Ile Asn Thr Arg Phe Leu Leu Tyr Thr Ile His Asn Pro
    50                  55                  60
Asn Ala Tyr Gln Glu Ile Ser Ala Val Asn Ser Ser Thr Ile Gln Ala
65                  70                  75                  80
Ser Tyr Phe Gly Thr Asp Lys Ile Thr Arg Ile Asn Ile Ala Gly Trp
                85                  90                  95
Lys Thr Asp Gly Lys Trp Gln Arg Asp Met Cys Asn Val Leu Leu Gln
            100                 105                 110
```

```
Leu Glu Asp Ile Asn Cys Ile Asn Leu Asp Trp Ile Asn Gly Ser Arg
        115                 120                 125
Glu Tyr Ile His Ala Val Asn Asn Leu Arg Val Val Gly Ala Glu Val
        130                 135                 140
Ala Tyr Phe Ile Asp Val Leu Met Lys Lys Phe Glu Tyr Ser Pro Ser
145                 150                 155                 160
Lys Val His Leu Ile Gly His Ser Leu Gly Ala His Leu Ala Gly Glu
                165                 170                 175
Ala Gly Ser Arg Ile Pro Gly Leu Gly Arg Ile Thr Gly Leu Asp Pro
                180                 185                 190
Ala Gly Pro Phe Phe His Asn Thr Pro Lys Glu Val Arg Leu Asp Pro
                195                 200                 205
Ser Asp Ala Asn Phe Val Asp Val Ile His Thr Asn Ala Ala Arg Ile
        210                 215                 220
Leu Phe Glu Leu Gly Val Gly Thr Ile Asp Ala Cys Gly His Leu Asp
225                 230                 235                 240
Phe Tyr Pro Asn Gly Gly Lys His Met Pro Gly Cys Glu Asp Leu Ile
                245                 250                 255
Thr Pro Leu Leu Lys Phe Asn Phe Asn Ala Tyr Lys Lys Glu Met Ala
                260                 265                 270
Ser Phe Phe Asp Cys Asn His Ala Arg Ser Tyr Gln Phe Tyr Ala Glu
                275                 280                 285
Ser Ile Leu Asn Pro Asp Ala Phe Ile Ala Tyr Pro Cys Arg Ser Tyr
        290                 295                 300
Thr Ser Phe Lys Ala Gly Thr Cys Val Gly Cys Ala Asp Leu Leu His
305                 310                 315                 320
Arg Ile Asp Lys Ile Gly Ser His Thr Ser His Val Phe Leu Thr Leu
                325                 330                 335
Ser Leu Pro Phe Leu Leu Val Ser Leu Tyr Leu Gly Trp Arg His Lys
                340                 345                 350
Leu Ser Val Lys Leu Ser Gly Ser Glu Val Thr Gln Gly Thr Val Phe
                355                 360                 365
Leu Arg Val Gly Gly Ala Val Arg Lys Thr Gly Glu Phe Ala Ile Val
        370                 375                 380
Ser Gly Lys Leu Glu Pro Gly Met Thr Tyr Thr Lys Leu Ile Asp Ala
385                 390                 395                 400
Asp Val Asn Val Gly Asn Ile Thr Ser Val Gln Phe Ile Trp Lys Lys
                405                 410                 415
His Leu Phe Glu Asp Ser Gln Asn Lys Leu Gly Ala Glu Met Val Ile
                420         ,       425                 430
```

```
Asn Thr Ser Gly Lys Tyr Gly Tyr Lys Ser Thr Phe Cys Ser Gln Asp
        435                 440                 445
Ile Met Gly Pro Asn Ile Leu Gln Asn Leu Lys Pro Cys
    450                 455                 460


<210> 24
<211> 308
<212> PRT
<213> Homo sapiens

<400> 24
Met Pro Phe Leu Gln Leu Lys Gly Arg Ala Thr Pro Pro Ser Trp Arg
  1               5                  10                  15
His Asp Ser Arg Ser Leu Val His Leu Leu Asp Gly Lys Glu Gly Val
            20                  25                  30
Trp Asp Thr Thr Gly Tyr Ala Leu Gly Ser Arg Glu Ser Leu Asn Pro
            35                  40                  45
Asp Met Gly Ile Gly Asp Pro His Gly His Ser Thr Val His Thr Arg
    50                  55                  60
Glu Ala Gly Thr Ala Cys Pro Leu Gln Leu Leu Gly Ala Arg Glu Ala
65                  70                  75                  80
Ser Leu Leu Ala Cys Gly Ile Cys Gln Ala Ser Gly Gln Ile Phe Ile
                85                  90                  95
Thr Gln Thr Leu Gly Ile Lys Gly Tyr Arg Thr Val Val Ala Leu Asp
                100                 105                 110
Lys Val Pro Glu Asp Val Gln Glu Tyr Ser Trp Tyr Trp Gly Ala Asn
            115                 120                 125
Asp Ser Ala Gly Asn Met Ile Ile Ser His Lys Pro Pro Ser Ala Gln
    130                 135                 140
Gln Pro Gly Pro Met Tyr Thr Gly Arg Glu Arg Val Asn Arg Glu Gly
145                 150                 155                 160
Ser Leu Leu Ile Arg Pro Thr Ala Leu Asn Asp Thr Gly Asn Tyr Thr
                165                 170                 175
Val Arg Val Val Ala Gly Asn Glu Thr Gln Arg Ala Thr Gly Trp Leu
                180                 185                 190
Glu Val Leu Asp Gly Pro Asp Tyr Val Leu Leu Arg Ser Asn Pro Asp
            195                 200                 205
Asp Phe Asn Gly Ile Val Thr Ala Glu Ile Gly Ser Gln Val Glu Met
    210                 215                 220
```

Glu Cys Ile Cys Tyr Ser Phe Leu Asp Leu Lys Tyr His Trp Ile His
225   230   235   240
Asn Gly Ser Leu Leu Asn Phe Ser Asp Ala Lys Met Asn Leu Ser Ser
                245   250   255
Leu Ala Trp Glu Gln Met Gly Arg Tyr Arg Cys Thr Val Glu Asn Pro
                260   265   270
Val Thr Gln Leu Ile Met Tyr Met Asp Val Arg Ile Gln Ala Pro His
            275   280   285
Glu Cys Ser Ser Ser Pro Pro Gly Ser Cys Phe Ala His Leu Pro Ala
            290   295   300
Ser Met Pro Cys
305

<210> 25
<211> 457
<212> PRT
<213> Homo sapiens

<400> 25
Met Asp Leu Ser Arg Pro Arg Trp Ser Leu Trp Arg Arg Val Phe Leu
  1   5   10   15
Met Ala Ser Leu Leu Ala Cys Gly Ile Cys Gln Ala Ser Gly Gln Ile
                20   25   30
Phe Ile Thr Gln Thr Leu Gly Ile Lys Gly Tyr Arg Thr Val Val Ala
            35   40   45
Leu Asp Lys Val Pro Glu Asp Val Gln Glu Tyr Ser Trp Tyr Trp Gly
        50   55   60
Ala Asn Asp Ser Ala Gly Asn Met Ile Ile Ser His Lys Pro Pro Ser
65   70   75   80
Ala Gln Gln Pro Gly Pro Met Tyr Thr Gly Arg Glu Arg Val Asn Arg
                85   90   95
Glu Gly Ser Leu Leu Ile Arg Pro Thr Ala Leu Asn Asp Thr Gly Asn
                100   105   110
Tyr Thr Val Arg Val Val Ala Gly Asn Glu Thr Gln Arg Ala Thr Gly
            115   120   125
Trp Leu Glu Val Leu Glu Leu Gly Ser Asn Leu Gly Ile Ser Val Asn
        130   135   140
Ala Ser Ser Leu Val Glu Asn Met Asp Ser Val Ala Ala Asp Cys Leu
145   150   155   160

Thr Asn Val Thr Asn Ile Thr Trp Tyr Val Asn Asp Val Pro Thr Ser
                165   170   175
Ser Ser Asp Arg Met Thr Ile Ser Pro Asp Gly Lys Thr Leu Val Ile
                180   185   190
Leu Arg Val Ser Arg Tyr Asp Arg Thr Ile Gln Cys Met Ile Glu Ser
                195   200   205
Phe Pro Glu Ile Phe Gln Arg Ser Glu Arg Ile Ser Leu Thr Val Ala
      210   215   220
Tyr Gly Pro Asp Tyr Val Leu Leu Arg Ser Asn Pro Asp Asp Phe Asn
225   230   235   240
Gly Ile Val Thr Ala Glu Ile Gly Ser Gln Val Glu Met Glu Cys Ile
                245   250   255
Cys Tyr Ser Phe Leu Asp Leu Lys Tyr His Trp Ile His Asn Gly Ser
                260   265   270
Leu Leu Asn Phe Ser Asp Ala Lys Met Asn Leu Ser Ser Leu Ala Trp
                275   280   285
Glu Gln Met Gly Arg Tyr Arg Cys Thr Val Glu Asn Pro Val Thr Gln
      290   295   300
Leu Ile Met Tyr Met Asp Val Arg Ile Gln Ala Pro His Glu Cys Pro
305   310   315   320
Leu Pro Ser Gly Ile Leu Pro Val Val His Arg Asp Phe Ser Ile Ser
                325   330   335
Gly Ser Met Val Met Phe Leu Ile Met Leu Thr Val Leu Gly Gly Val
                340   345   350
Tyr Ile Cys Gly Val Leu Ile His Ala Leu Ile Asn His Tyr Ser Ile
                355   360   365
Arg Cys Pro His Cys Ser Gly Thr Arg Val Gly Cys Trp Leu Gly Ala
      370   375   380
Gly Thr Gln Glu Pro Ala Leu Pro Pro Glu Gly Lys Gln Ser Gln Lys
385   390   395   400
Gly Arg Asp Lys Pro Gly Thr Arg Leu Ser Gly Ile Ile Trp Gly Arg
                405   410   415
Gln Ile Ser Pro Gln Asp Leu Lys Leu Met Gly Ala Arg Glu Gly Leu
                420   425   430
Glu Ser Ala Met Val Leu Asn Ser Cys Gly Val Ser Ser Ser Asn Phe
      435   440   445
Pro Ser Leu Cys Val Tyr Lys Gly Tyr
      450   455

<210> 26
<211> 704
<212> PRT
<213> Homo sapiens

<400> 26

```
Met Leu His Asp Gly Leu Thr Ala Pro Asp Gly Cys Gly Ile Tyr Ser
1               5                   10                  15
Leu Thr Gly Arg Glu Val Leu Thr Pro Phe Pro Gly Leu Gly Thr Ala
                20                  25                  30
Ala Ala Pro Ala Gln Gly Gly Ala His Leu Lys Gln Cys Asp Leu Leu
            35                  40                  45
Lys Leu Ser Arg Arg Gln Lys Gln Leu Cys Arg Arg Glu Pro Gly Leu
        50                  55                  60
Ala Glu Thr Leu Arg Asp Ala Ala His Leu Gly Leu Leu Glu Cys Gln
65                  70                  75                  80
Phe Gln Phe Arg His Glu Arg Trp Asn Cys Ser Leu Glu Gly Arg Met
                85                  90                  95
Gly Leu Leu Lys Arg Gly Phe Lys Glu Thr Ala Phe Leu Tyr Ala Val
                100                 105                 110
Ser Ser Ala Ala Leu Thr His Thr Leu Ala Arg Ala Cys Ser Ala Gly
            115                 120                 125
Arg Met Glu Arg Cys Thr Cys Asp Asp Ser Pro Gly Leu Glu Ser Arg
        130                 135                 140
Gln Ala Trp Gln Trp Gly Val Cys Gly Asp Asn Leu Lys Tyr Ser Thr
145                 150                 155                 160
Lys Phe Leu Ser Asn Phe Leu Gly Ser Lys Arg Gly Asn Lys Asp Leu
                165                 170                 175
Arg Ala Arg Ala Asp Ala His Asn Thr His Val Gly Ile Lys Ala Val
            180                 185                 190
Lys Ser Gly Leu Arg Thr Thr Cys Lys Cys His Gly Val Ser Gly Ser
            195                 200                 205
Cys Ala Val Arg Thr Cys Trp Lys Gln Leu Ser Pro Phe Arg Glu Thr
    210                 215                 220
Gly Gln Val Leu Lys Leu Arg Tyr Asp Ser Ala Val Lys Val Ser Ser
225                 230                 235                 240
Ala Thr Asn Glu Ala Leu Gly Arg Leu Glu Leu Trp Ala Pro Ala Arg
                245                 250                 255
Gln Gly Ser Leu Thr Lys Gly Leu Ala Pro Arg Ser Gly Asp Leu Val
            260                 265                 270
```

```
Tyr Met Glu Asp Ser Pro Ser Phe Cys Arg Pro Ser Lys Tyr Ser Pro
        275                 280                 285
Gly Thr Ala Gly Arg Val Cys Ser Arg Glu Ala Ser Cys Ser Ser Leu
        290                 295                 300
Cys Cys Gly Arg Gly Tyr Asp Thr Gln Ser Arg Leu Val Ala Phe Ser
305                 310                 315                 320
Cys His Cys Gln Val Gln Trp Cys Cys Tyr Val Glu Cys Gln Gln Cys
                325                 330                 335
Val Gln Glu Glu Leu Val Tyr Thr Cys Lys His Ala Met Gly Pro Val
                340                 345                 350
Gly Phe Pro Arg Gln Cys Gln Gly Ala Phe Phe Glu Ser Ser Pro Gly
        355                 360                 365
Gln Thr Arg Ala Arg Leu Thr Gly Arg Glu Val Leu Thr Pro Phe Pro
        370                 375                 380
Gly Leu Gly Thr Ala Ala Ala Pro Ala Gln Gly Gly Ala His Leu Lys
385                 390                 395                 400
Gln Cys Asp Leu Leu Lys Leu Ser Arg Arg Gln Lys Gln Leu Cys Arg
                405                 410                 415
Arg Glu Pro Gly Leu Ala Glu Thr Leu Arg Asp Ala Ala His Leu Gly
        420                 425                 430
Leu Leu Glu Cys Gln Phe Gln Phe Arg His Glu Arg Trp Asn Cys Ser
        435                 440                 445
Leu Glu Gly Arg Met Gly Leu Leu Lys Arg Gly Phe Lys Glu Thr Ala
        450                 455                 460
Phe Leu Tyr Ala Val Ser Ser Ala Ala Leu Thr His Thr Leu Ala Arg
465                 470                 475                 480
Ala Cys Ser Ala Gly Arg Met Glu Arg Cys Thr Cys Asp Asp Ser Pro
                485                 490                 495
Gly Leu Glu Ser Arg Gln Ala Trp Gln Trp Gly Val Cys Gly Asp Asn
        500                 505                 510
Leu Lys Tyr Ser Thr Lys Phe Leu Ser Asn Phe Leu Gly Ser Lys Arg
        515                 520                 525
Gly Asn Lys Asp Leu Arg Ala Arg Ala Asp Ala His Asn Thr His Val
        530                 535                 540
Gly Ile Lys Ala Val Lys Ser Gly Leu Arg Thr Thr Cys Lys Cys His
545                 550                 555                 560
Gly Val Ser Gly Ser Cys Ala Val Arg Thr Cys Trp Lys Gln Leu Ser
                565                 570                 575
Pro Phe Arg Glu Thr Gly Gln Val Leu Lys Leu Arg Tyr Asp Ser Ala
        580                 585                 590
```

Val Lys Val Ser Ser Ala Thr Asn Glu Ala Leu Gly Arg Leu Glu Leu
        595   600   605

Trp Ala Pro Ala Arg Gln Gly Ser Leu Thr Lys Gly Leu Ala Pro Arg
    610   615   620

Ser Gly Asp Leu Val Tyr Met Glu Asp Ser Pro Ser Phe Cys Arg Pro
625   630   635   640

Ser Lys Tyr Ser Pro Gly Thr Ala Gly Arg Val Cys Ser Arg Glu Ala
                645   650   655

Ser Cys Ser Ser Leu Cys Cys Gly Arg Gly Tyr Asp Thr Gln Ser Arg
            660   665   670

Leu Val Ala Phe Ser Cys His Cys Gln Val Gln Trp Cys Cys Tyr Val
        675   680   685

Glu Cys Gln Gln Cys Val Gln Glu Glu Leu Val Tyr Thr Cys Lys His
    690   695   700

<210> 27
<211> 361
<212> PRT
<213> Homo sapiens

<400> 27
Met Lys Pro Leu Arg Arg Pro Leu Pro Phe Ile Cys Pro Ser Pro Pro
1   5   10   15

Ser Pro Arg Leu Thr Cys Leu Pro Pro Leu Ala Leu Ser Ser Leu Thr
            20   25   30

Gly Arg Glu Val Leu Thr Pro Phe Pro Gly Leu Gly Thr Ala Ala Ala
        35   40   45

Pro Ala Gln Gly Gly Ala His Leu Lys Gln Cys Asp Leu Leu Lys Leu
    50   55   60

Ser Arg Arg Gln Lys Gln Leu Cys Arg Arg Glu Pro Gly Leu Ala Glu
65   70   75   80

Thr Leu Arg Asp Ala Ala His Leu Gly Leu Leu Glu Cys Gln Phe Gln
                85   90   95

Phe Arg His Glu Arg Trp Asn Cys Ser Leu Glu Gly Arg Met Gly Leu
            100   105   110

Leu Lys Arg Gly Phe Lys Glu Thr Ala Phe Leu Tyr Ala Val Ser Ser
        115   120   125

Ala Ala Leu Thr His Thr Leu Ala Arg Ala Cys Ser Ala Gly Arg Met
    130   135   140

```
Glu Arg Cys Thr Cys Asp Asp Ser Pro Gly Leu Glu Ser Arg Gln Ala
145                 150                 155                 160
Trp Gln Trp Gly Val Cys Gly Asp Asn Leu Lys Tyr Ser Thr Lys Phe
                165                 170                 175
Leu Ser Asn Phe Leu Gly Ser Lys Arg Gly Asn Lys Asp Leu Arg Ala
            180                 185                 190
Arg Ala Asp Ala His Asn Thr His Val Gly Ile Lys Ala Val Lys Ser
            195                 200                 205
Gly Leu Arg Thr Thr Cys Lys Cys His Gly Val Ser Gly Ser Cys Ala
            210                 215                 220
Val Arg Thr Cys Trp Lys Gln Leu Ser Pro Phe Arg Glu Thr Gly Gln
225                 230                 235                 240
Val Leu Lys Leu Arg Tyr Asp Ser Ala Val Lys Val Ser Ser Ala Thr
                245                 250                 255
Asn Glu Ala Leu Gly Arg Leu Glu Leu Trp Ala Pro Ala Arg Gln Gly
            260                 265                 270
Ser Leu Thr Lys Gly Leu Ala Pro Arg Ser Gly Asp Leu Val Tyr Met
            275                 280                 285
Glu Asp Ser Pro Ser Phe Cys Arg Pro Ser Lys Tyr Ser Pro Gly Thr
            290                 295                 300
Ala Gly Arg Val Cys Ser Arg Glu Ala Ser Cys Ser Ser Leu Cys Cys
305                 310                 315                 320
Gly Arg Gly Tyr Asp Thr Gln Ser Arg Leu Val Ala Phe Ser Cys His
                325                 330                 335
Cys Gln Val Gln Trp Cys Cys Tyr Val Glu Cys Gln Gln Cys Val Gln
            340                 345                 350
Glu Glu Leu Val Tyr Thr Cys Lys His
            355                 360


<210> 28
<211> 365
<212> PRT
<213> Homo sapiens

<400> 28
Met Trp Leu Leu Leu Thr Thr Thr Cys Leu Ile Cys Gly Thr Leu Asn
 1               5                  10                  15
Ala Gly Gly Phe Leu Asp Leu Glu Asn Glu Val Asn Pro Glu Val Trp
            20                  25                  30
```

```
Met Asn Thr Ser Glu Ile Ile Ile Tyr Asn Gly Tyr Pro Ser Glu Glu
        35              40              45
Tyr Glu Val Thr Thr Glu Asp Gly Tyr Ile Leu Leu Val Asn Arg Ile
        50              55              60
Pro Tyr Gly Arg Thr His Ala Arg Ser Thr Ala Asp Ala Gly Tyr Asp
65              70              75              80
Val Trp Met Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Arg His Lys
            85              90              95
Thr Leu Ser Glu Thr Asp Glu Lys Phe Trp Ala Phe Ser Phe Asp Glu
            100             105             110
Met Ala Lys Tyr Asp Leu Pro Gly Val Ile Asp Phe Ile Val Asn Lys
            115             120             125
Thr Gly Gln Glu Lys Leu Tyr Phe Ile Gly His Ser Leu Gly Thr Thr
            130             135             140
Ile Gly Phe Val Ala Phe Ser Thr Met Pro Glu Leu Ala Gln Arg Ile
145             150             155             160
Lys Met Asn Phe Ala Leu Gly Pro Thr Ile Ser Phe Lys Tyr Pro Thr
            165             170             175
Gly Ile Phe Thr Arg Phe Phe Leu Leu Pro Asn Ser Ile Ile Lys Ala
            180             185             190
Val Phe Gly Thr Lys Gly Phe Phe Leu Glu Asp Lys Lys Thr Lys Ile
            195             200             205
Ala Ser Thr Lys Ile Cys Asn Asn Lys Ile Leu Trp Leu Ile Cys Ser
            210             215             220
Glu Phe Met Ser Leu Trp Ala Gly Ser Asn Lys Lys Asn Met Asn Gln
225             230             235             240
Ser Arg Met Asp Val Tyr Met Ser His Ala Pro Thr Gly Ser Ser Val
            245             250             255
His Asn Ile Leu His Ile Lys Gln Leu Tyr His Ser Asp Glu Phe Arg
            260             265             270
Ala Tyr Asp Trp Gly Asn Asp Ala Asp Asn Met Lys His Tyr Asn Gln
            275             280             285
Ser His Pro Pro Ile Tyr Asp Leu Thr Ala Met Lys Val Pro Thr Ala
            290             295             300
Ile Trp Ala Gly Gly His Asp Val Leu Val Thr Pro Gln Asp Val Ala
305             310             315             320
Arg Ile Leu Pro Gln Ile Lys Ser Leu His Tyr Phe Lys Leu Leu Pro
            325             330             335
Asp Trp Asn His Phe Asp Phe Val Trp Gly Leu Asp Ala Pro Gln Arg
            340             345             350
```

Met Tyr Ser Glu Ile Ile Ala Leu Met Lys Ala Tyr Ser
        355   360   365

<210> 29
<211> 397
<212> PRT
<213> Homo sapiens

<400> 29
Met Trp Gln Leu Leu Ala Ala Ala Cys Trp Met Leu Leu Leu Gly Ser
 1   5   10   15
Met Tyr Gly Tyr Asp Lys Lys Gly Asn Asn Ala Asn Pro Glu Ala Asn
                20   25   30
Met Asn Ile Ser Gln Ile Ile Ser Tyr Trp Gly Tyr Pro Tyr Glu Glu
        35   40   45
Tyr Asp Val Thr Thr Lys Asp Gly Tyr Ile Leu Gly Ile Tyr Arg Ile
    50   55   60
Pro His Gly Arg Gly Cys Pro Gly Arg Thr Ala Pro Lys Pro Ala Val
65   70   75   80
Tyr Leu Gln His Gly Leu Ile Ala Ser Ala Ser Asn Trp Ile Cys Asn
                85   90   95
Leu Pro Asn Asn Ser Leu Ala Phe Leu Leu Ala Asp Ser Gly Tyr Asp
                100   105   110
Val Trp Leu Gly Asn Ser Arg Gly Asn Thr Trp Ser Arg Lys His Leu
        115   120   125
Lys Leu Ser Pro Lys Ser Pro Glu Tyr Trp Ala Phe Ser Leu Asp Glu
    130   135   140
Met Ala Lys Tyr Asp Leu Pro Ala Thr Ile Asn Phe Ile Ile Glu Lys
145   150   155   160
Thr Gly Gln Lys Arg Leu Tyr Tyr Val Gly His Ser Gln Gly Thr Thr
                165   170   175
Ile Ala Phe Ile Ala Phe Ser Thr Asn Pro Glu Leu Ala Lys Lys Ile
                180   185   190
Lys Ile Phe Phe Ala Leu Ala Pro Val Val Thr Val Lys Tyr Thr Gln
        195   200   205
Ser Pro Met Lys Lys Leu Thr Thr Leu Ser Arg Arg Val Val Lys Val
    210   215   220
Leu Phe Gly Asp Lys Met Phe His Pro His Thr Leu Phe Asp Gln Phe
225   230   235   240

Ile Ala Thr Lys Val Cys Asn Arg Lys Leu Phe Arg Arg Ile Cys Ser
            245   250   255
Asn Phe Leu Phe Thr Leu Ser Gly Phe Asp Pro Gln Asn Leu Asn Met
            260   265   270
Ser Arg Leu Asp Val Tyr Leu Ser His Asn Pro Ala Gly Thr Ser Val
            275   280   285
Gln Asn Met Leu His Trp Ala Gln Leu Tyr His Ser Asp Glu Phe Arg
        290   295   300
Ala Tyr Asp Trp Gly Asn Asp Ala Asp Asn Met Lys His Tyr Asn Gln
305   310   315   320
Ser His Pro Pro Ile Tyr Asp Leu Thr Ala Met Lys Val Pro Thr Ala
                325   330   335
Ile Trp Ala Gly Gly His Asp Val Leu Val Thr Pro Gln Asp Val Ala
            340   345   350
Arg Ile Leu Pro Gln Ile Lys Ser Leu His Tyr Phe Lys Leu Leu Pro
        355   360   365
Asp Trp Asn His Phe Asp Phe Val Trp Gly Leu Asp Ala Pro Gln Arg
        370   375   380
Met Tyr Ser Glu Ile Ile Ala Leu Met Lys Ala Tyr Ser
385   390   395

<210> 30
<211> 3705
<212> PRT
<213> Homo sapiens

<400> 30
Met Ala Lys Arg Leu Cys Ala Gly Ser Ala Leu Cys Val Arg Gly Pro
  1   5   10   15
Arg Gly Pro Ala Pro Leu Leu Leu Val Gly Leu Ala Leu Leu Gly Ala
            20   25   30
Ala Arg Ala Arg Glu Glu Ala Gly Gly Phe Ser Leu His Pro Pro
        35   40   45
Tyr Phe Asn Leu Ala Glu Gly Ala Arg Ile Ala Ala Ser Ala Thr Cys
        50   55   60
Gly Glu Glu Ala Pro Ala Arg Gly Ser Pro Arg Pro Thr Glu Asp Leu
65   70   75   80
Tyr Cys Lys Leu Val Gly Gly Pro Val Ala Gly Gly Asp Pro Asn Gln
                85   90   95

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Thr Ile Arg Gly Gln Tyr Cys Asp Ile Cys Thr Ala Ala Asn Ser Asn
            100                 105                 110
Lys Ala His Pro Ala Ser Asn Ala Ile Asp Gly Thr Glu Arg Trp Trp
            115                 120                 125
Gln Ser Pro Pro Leu Ser Arg Gly Leu Glu Tyr Asn Glu Val Asn Val
            130                 135                 140
Thr Leu Asp Leu Gly Gln Val Phe His Val Ala Tyr Val Leu Ile Lys
145                 150                 155                 160
Phe Ala Asn Ser Pro Arg Pro Asp Leu Trp Val Leu Glu Arg Ser Met
                165                 170                 175
Asp Phe Gly Arg Thr Tyr Gln Pro Trp Gln Phe Phe Ala Ser Ser Lys
            180                 185                 190
Arg Asp Cys Leu Glu Arg Phe Gly Pro Gln Thr Leu Glu Arg Ile Thr
            195                 200                 205
Arg Asp Asp Ala Ala Ile Cys Thr Thr Glu Tyr Ser Arg Ile Val Pro
            210                 215                 220
Leu Glu Asn Gly Glu Ile Val Val Ser Leu Val Asn Gly Arg Pro Gly
225                 230                 235                 240
Ala Met Asn Phe Ser Tyr Ser Pro Leu Leu Arg Glu Phe Thr Lys Ala
                245                 250                 255
Thr Asn Val Arg Leu Arg Phe Leu Arg Thr Asn Thr Leu Leu Gly His
                260                 265                 270
Leu Met Gly Lys Ala Leu Arg Asp Pro Thr Val Thr Arg Arg Tyr Tyr
            275                 280                 285
Tyr Ser Ile Lys Asp Ile Ser Ile Gly Gly Arg Cys Val Cys His Gly
            290                 295                 300
His Ala Asp Ala Cys Asp Ala Lys Asp Pro Thr Asp Pro Phe Arg Leu
305                 310                 315                 320
Gln Cys Thr Cys Gln His Asn Thr Cys Gly Gly Thr Cys Asp Arg Cys
                325                 330                 335
Cys Pro Gly Phe Asn Gln Gln Pro Trp Lys Pro Ala Thr Ala Asn Ser
                340                 345                 350
Ala Asn Glu Cys Gln Ser Cys Asn Cys Tyr Gly His Ala Thr Asp Cys
                355                 360                 365
Tyr Tyr Asp Pro Glu Val Asp Arg Arg Arg Ala Ser Gln Ser Leu Asp
            370                 375                 380
Gly Thr Tyr Gln Gly Gly Gly Val Cys Ile Asp Cys Gln His His Thr
385                 390                 395                 400
Thr Gly Val Asn Cys Glu Arg Cys Leu Pro Gly Phe Tyr Arg Ser Pro
                405                 410                 415
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Asn His Pro Leu Asp Ser Pro His Val Cys Arg Arg Cys Asn Cys Glu
            420   425   430
Ser Asp Phe Thr Asp Gly Thr Cys Glu Asp Leu Thr Gly Arg Cys Tyr
            435   440   445
Cys Arg Pro Asn Phe Ser Gly Glu Arg Cys Asp Val Cys Ala Glu Gly
        450   455   460
Phe Thr Gly Phe Pro Ser Cys Tyr Pro Thr Pro Ser Ser Ser Asn Asp
465   470   475   480
Thr Arg Glu Gln Val Leu Pro Ala Gly Gln Ile Val Asn Cys Asp Cys
            485   490   495
Ser Ala Ala Gly Thr Gln Gly Asn Ala Cys Arg Lys Asp Pro Arg Val
        500   505   510
Gly Arg Cys Leu Cys Lys Pro Asn Phe Gln Gly Thr His Cys Glu Leu
        515   520   525
Cys Ala Pro Gly Phe Tyr Gly Pro Gly Cys Gln Pro Cys Gln Cys Ser
        530   535   540
Ser Pro Gly Val Ala Asp Asp Arg Cys Asp Pro Asp Thr Gly Gln Cys
545   550   555   560
Arg Cys Arg Val Gly Phe Glu Gly Ala Thr Cys Asp Arg Cys Ala Pro
            565   570   575
Gly Tyr Phe His Phe Pro Leu Cys Gln Leu Cys Gly Cys Ser Pro Ala
            580   585   590
Gly Thr Leu Pro Glu Gly Cys Asp Glu Ala Gly Arg Cys Leu Cys Gln
        595   600   605
Pro Glu Phe Ala Gly Pro His Cys Asp Arg Cys Arg Pro Gly Tyr His
        610   615   620
Gly Phe Pro Asn Cys Gln Ala Cys Thr Cys Asp Pro Arg Gly Ala Leu
625   630   635   640
Asp Gln Leu Cys Gly Ala Gly Gly Leu Cys Arg Cys Arg Pro Gly Tyr
            645   650   655
Thr Gly Thr Ala Cys Gln Glu Cys Ser Pro Gly Phe His Gly Phe Pro
            660   665   670
Ser Cys Val Pro Cys His Cys Ser Ala Glu Gly Ser Leu His Ala Ala
        675   680   685
Cys Asp Pro Arg Ser Gly Gln Cys Ser Cys Arg Pro Arg Val Thr Gly
        690   695   700
Leu Arg Cys Asp Thr Cys Val Pro Gly Ala Tyr Asn Phe Pro Tyr Cys
705   710   715   720
Glu Ala Gly Ser Cys His Pro Ala Gly Leu Ala Pro Val Asp Pro Ala
            725   730   735

Leu Pro Glu Ala Gln Val Pro Cys Met Cys Arg Ala His Val Glu Gly
            740   745   750
Pro Ser Cys Asp Arg Cys Lys Pro Gly Phe Trp Gly Leu Ser Pro Ser
            755   760   765
Asn Pro Glu Gly Cys Thr Arg Cys Ser Cys Asp Leu Arg Gly Thr Leu
        770   775   780
Gly Gly Val Ala Glu Cys Gln Pro Gly Thr Gly Gln Cys Phe Cys Lys
785   790   795   800
Pro His Val Cys Gly Gln Ala Cys Ala Ser Cys Lys Asp Gly Phe Phe
                805   810   815
Gly Leu Asp Gln Ala Asp Tyr Phe Gly Cys Arg Ser Cys Arg Cys Asp
            820   825   830
Ile Gly Gly Ala Leu Gly Gln Ser Cys Glu Pro Arg Thr Gly Val Cys
            835   840   845
Arg Cys Arg Pro Asn Thr Gln Gly Pro Thr Cys Ser Glu Pro Ala Arg
        850   855   860
Asp His Tyr Leu Pro Asp Leu His His Leu Arg Leu Glu Leu Glu Glu
865   870   875   880
Ala Ala Thr Pro Glu Gly His Ala Val Arg Phe Gly Phe Asn Pro Leu
                885   890   895
Glu Phe Glu Asn Phe Ser Trp Arg Gly Tyr Ala Gln Met Ala Pro Val
            900   905   910
Gln Pro Arg Ile Val Ala Arg Leu Asn Leu Thr Ser Pro Asp Leu Phe
            915   920   925
Trp Leu Val Phe Arg Tyr Val Asn Arg Gly Ala Met Ser Val Ser Gly
        930   935   940
Arg Val Ser Val Arg Glu Glu Gly Arg Ser Ala Thr Cys Ala Asn Cys
945   950   955   960
Thr Ala Gln Ser Gln Pro Val Ala Phe Pro Pro Ser Thr Glu Pro Ala
            965   970   975
Phe Ile Thr Val Pro Gln Arg Gly Phe Gly Glu Pro Phe Val Leu Asn
            980   985   990
Pro Gly Thr Trp Ala Leu Arg Val Glu Ala Glu Gly Val Leu Leu Asp
        995   1000   1005
Tyr Val Val Leu Leu Pro Ser Ala Tyr Tyr Glu Ala Ala Leu Leu Gln
    1010   1015   1020
Leu Arg Val Thr Glu Ala Cys Thr Tyr Arg Pro Ser Ala Gln Gln Ser
1025   1030   1035   1040
Gly Asp Asn Cys Leu Leu Tyr Thr His Leu Pro Leu Asp Gly Phe Pro
            1045   1050   1055

Ser Ala Ala Gly Leu Glu Ala Leu Cys Arg Gln Asp Asn Ser Leu Pro
          1060   1065   1070
Arg Pro Cys Pro Thr Glu Gln Leu Ser Pro Ser His Pro Pro Leu Ile
          1075   1080   1085
Thr Cys Thr Gly Ser Asp Val Asp Val Gln Leu Gln Val Ala Val Pro
          1090   1095   ⌐   1100
Gln Pro Gly Arg Tyr Ala Leu Val Val Glu Tyr Ala Asn Glu Asp Ala
1105   1110   1115   1120
Arg Gln Glu Val Gly Val Ala Val His Thr Pro Gln Arg Ala Pro Gln
                    1125   1130   1135
Gln Gly Leu Leu Ser Leu His Pro Cys Leu Tyr Ser Thr Leu Cys Arg
          1140   1145   1150
Gly Thr Ala Arg Asp Thr Gln Asp His Leu Ala Val Phe His Leu Asp
          1155   1160   1165
Ser Glu Ala Ser Val Arg Leu Thr Ala Glu Gln Ala Arg Phe Phe Leu
          1170   1175   1180
His Gly Val Thr Leu Val Pro Ile Glu Glu Phe Ser Pro Glu Phe Val
1185   1190   1195   1200
Glu Pro Arg Val Ser Cys Ile Ser Ser His Gly Ala Phe Gly Pro Asn
                    1205   1210   1215
Ser Ala Ala Cys Leu Pro Ser Arg Phe Pro Lys Pro Pro Gln Pro Ile
                    1220   1225   1230
Ile Leu Arg Asp Cys Gln Val Ile Pro Leu Pro Pro Gly Leu Pro Leu
          1235   1240   1245
Thr His Ala Gln Asp Leu Thr Pro Ala Met Ser Pro Ala Gly Pro Arg
          1250   1255   1260
Pro Arg Pro Pro Thr Ala Val Asp Pro Asp Ala Glu Pro Thr Leu Leu
1265   1270   1275   1280
Arg Glu Pro Gln Ala Thr Val Val Phe Thr Thr His Val Pro Thr Leu
                    1285   1290   1295
Gly Arg Tyr Ala Phe Leu Leu His Gly Tyr Gln Pro Ala His Pro Thr
          1300   1305   1310
Phe Pro Val Glu Val Leu Ile Asn Ala Gly Arg Val Trp Gln Gly His
          1315   1320   1325
Ala Asn Ala Ser Phe Cys Pro His Gly Tyr Gly Cys Arg Thr Leu Val
          1330   1335   1340
Val Cys Glu Gly Gln Ala Leu Leu Asp Val Thr His Ser Glu Leu Thr
1345   1350   1355   1360
Val Thr Val Arg Val Pro Lys Gly Arg Trp Leu Trp Leu Asp Tyr Val
                    1365   1370   1375

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Leu Val Val Pro Glu Asn Val Tyr Ser Phe Gly Tyr Leu Arg Glu Glu
          1380                1385                1390
Pro Leu Asp Lys Ser Tyr Asp Phe Ile Ser His Cys Ala Ala Gln Gly
        1395                1400                1405
Tyr His Ile Ser Pro Ser Ser Ser Ser Leu Phe Cys Arg Asn Ala Ala
      1410                1415                1420
Ala Ser Leu Ser Leu Phe Tyr Asn Asn Gly Ala Arg Pro Cys Gly Cys
1425                1430                1435                1440
His Glu Val Gly Ala Thr Gly Pro Thr Cys Glu Pro Phe Gly Gly Gln
            1445                1450                1455
Cys Pro Cys His Ala His Val Ile Gly Arg Asp Cys Ser Arg Cys Ala
          1460                1465                1470
Thr Gly Tyr Trp Gly Phe Pro Asn Cys Arg Pro Cys Asp Cys Gly Ala
        1475                1480                1485
Arg Leu Cys Asp Glu Leu Thr Gly Gln Cys Ile Cys Pro Pro Arg Thr
      1490                1495                1500
Ile Pro Pro Asp Cys Leu Leu Cys Gln Pro Gln Thr Phe Gly Cys His
1505                1510                1515                1520
Pro Leu Val Gly Cys Glu Glu Cys Asn Cys Ser Gly Pro Gly Ile Gln
            1525                1530                1535
Glu Leu Thr Asp Pro Thr Cys Asp Thr Asp Ser Gly Gln Cys Lys Cys
          1540                1545                1550
Arg Pro Asn Val Thr Gly Arg Arg Cys Asp Thr Cys Ser Pro Gly Phe
        1555                1560                1565
His Gly Tyr Pro Arg Cys Arg Pro Cys Asp Cys His Glu Ala Gly Thr
      1570                1575                1580
Ala Pro Gly Val Cys Asp Pro Leu Thr Gly Gln Cys Tyr Cys Lys Glu
1585                1590                1595                1600
Asn Val Gln Gly Pro Lys Cys Asp Gln Cys Ser Leu Gly Thr Phe Ser
            1605                1610                1615
Leu Asp Ala Ala Asn Pro Lys Gly Cys Thr Arg Cys Phe Cys Phe Gly
          1620                1625                1630
Ala Thr Glu Arg Cys Arg Ser Ser Ser Tyr Thr Arg Gln Glu Phe Val
          1635                1640                1645
Asp Met Glu Gly Trp Val Leu Leu Ser Thr Asp Arg Gln Val Val Pro
        1650                1655                1660
His Glu Arg Gln Pro Gly Thr Glu Met Leu Arg Ala Asp Leu Arg His
1665                1670                1675                1680
Val Pro Glu Ala Val Pro Glu Ala Phe Pro Glu Leu Tyr Trp Gln Ala
            1685                1690                1695
```

Pro Pro Ser Tyr Leu Gly Asp Arg Val Ser Ser Tyr Gly Gly Thr Leu
          1700   1705   1710
Arg Tyr Glu Leu His Ser Glu Thr Gln Arg Gly Asp Val Phe Val Pro
          1715   1720   1725
Met Glu Ser Arg Pro Asp Val Val Leu Gln Gly Asn Gln Met Ser Ile
          1730   1735   1740
Thr Phe Leu Glu Pro Ala Tyr Pro Thr Pro Gly His Val His Arg Gly
1745   1750   1755   1760
Gln Leu Gln Leu Val Glu Gly Asn Phe Arg His Thr Glu Thr Arg Asn
          1765   1770   1775
Thr Val Ser Arg Glu Glu Leu Met Met Val Leu Ala Ser Leu Glu Gln
          1780   1785   1790
Leu Gln Ile Arg Ala Leu Phe Ser Gln Ile Ser Ser Ala Val Phe Leu
          1795   1800   1805
Arg Arg Val Ala Leu Glu Val Ala Ser Pro Ala Gly Gln Gly Ala Leu
          1810   1815   1820
Ala Ser Asn Val Glu Leu Cys Leu Cys Pro Ala Ser Tyr Arg Gly Asp
1825   1830   1835   1840
Ser Cys Gln Glu Cys Ala Pro Gly Phe Tyr Arg Asp Val Lys Gly Leu
          1845   1850   1855
Phe Leu Gly Arg Cys Val Pro Cys Gln Cys His Gly His Ser Asp Arg
          1860   1865   1870
Cys Leu Pro Gly Ser Gly Val Cys Val Asp Cys Gln His Asn Thr Glu
          1875   1880   1885
Gly Ala His Cys Glu Arg Cys Gln Ala Gly Phe Val Ser Ser Arg Asp
          1890   1895   1900
Asp Pro Ser Ala Pro Cys Val Ser Cys Pro Cys Pro Leu Ser Val Pro
1905   1910   1915   1920
Ser Asn Asn Phe Ala Glu Gly Cys Val Leu Arg Gly Gly Arg Thr Gln
          1925   1930   1935
Cys Leu Cys Lys Pro Gly Tyr Ala Gly Ala Ser Cys Glu Arg Cys Ala
          1940   1945   1950
Pro Gly Phe Phe Gly Asn Pro Leu Val Leu Gly Ser Ser Cys Gln Pro
          1955   1960   1965
Cys Asp Cys Ser Gly Asn Gly Asp Pro Asn Leu Leu Phe Ser Asp Cys
          1970   1975   1980
Asp Pro Leu Thr Gly Ala Cys Arg Gly Cys Leu Arg His Thr Thr Gly
1985   1990   1995   2000
Pro Arg Cys Glu Ile Cys Ala Pro Gly Phe Tyr Gly Asn Ala Leu Leu
          2005   2010   2015

Pro Gly Asn Cys Thr Arg Cys Asp Cys Thr Pro Cys Gly Thr Glu Ala
                2020   2025   2030
Cys Asp Pro His Ser Gly His Cys Leu Cys Lys Ala Gly Val Thr Gly
                2035   2040   2045
Arg Arg Cys Asp Arg Cys Gln Glu Gly His Phe Gly Phe Asp Gly Cys
            2050   2055   2060
Gly Gly Cys Arg Pro Cys Ala Cys Gly Pro Ala Ala Glu Gly Ser Glu
2065   2070   2075   2080
Cys His Pro Gln Ser Gly Gln Cys His Cys Arg Pro Gly Thr Met Gly
                2085   2090   2095
Pro Gln Cys Arg Glu Cys Ala Pro Gly Tyr Trp Gly Leu Pro Glu Gln
                2100   2105   2110
Gly Cys Arg Arg Cys Gln Cys Pro Gly Gly Arg Cys Asp Pro His Thr
            2115   2120   2125
Gly Arg Cys Asn Cys Pro Pro Gly Leu Ser Gly Glu Arg Cys Asp Thr
            2130   2135   2140
Cys Ser Gln Gln His Gln Val Pro Val Pro Gly Gly Pro Val Gly His
2145   2150   2155   2160
Ser Ile His Cys Glu Val Cys Asp His Cys Val Val Leu Leu Leu Asp
                2165   2170   2175
Asp Leu Glu Arg Ala Gly Ala Leu Leu Pro Ala Ile His Glu Gln Leu
                2180   2185   2190
Arg Gly Ile Asn Ala Ser Ser Met Ala Trp Ala Arg Leu His Arg Leu
                2195   2200   2205
Asn Ala Ser Ile Ala Asp Leu Gln Ser Gln Leu Arg Ser Pro Leu Gly
            2210   2215   2220
Pro Arg His Glu Thr Ala Gln Gln Leu Glu Val Leu Glu Gln Gln Ser
2225   2230   2235   2240
Thr Ser Leu Gly Gln Asp Ala Arg Arg Leu Gly Gly Gln Ala Gly Ala
                2245   2250   2255
Pro Arg Pro Pro Arg Ala Pro Gly Gly Phe His Leu Tyr Gln Ala Ser
                2260   2265   2270
Gln Leu Leu Ala Gly Thr Glu Ala Thr Leu Gly His Ala Lys Thr Leu
            2275   2280   2285
Leu Ala Ala Ile Arg Ala Val Asp Arg Thr Leu Ser Glu Leu Met Ser
            2290   2295   2300
Gln Thr Gly His Leu Gly Leu Ala Asn Ala Ser Ala Pro Ser Gly Glu
            2305   2310   2315   2320
Gln Leu Leu Arg Thr Leu Ala Glu Val Glu Arg Leu Leu Trp Glu Met
                2325   2330   2335

Arg Ala Arg Asp Leu Gly Ala Pro Gln Ala Ala Ala Glu Ala Glu Leu
          2340   2345   2350
Ala Ala Ala Gln Arg Leu Leu Ala Arg Val Gln Glu Gln Leu Ser Ser
          2355   2360   2365
Leu Trp Glu Glu Asn Gln Ala Leu Ala Thr Gln Thr Arg Asp Arg Leu
          2370   2375   2380
Ala Gln His Glu Ala Gly Leu Met Asp Leu Arg Glu Ala Leu Asn Arg
2385   2390   2395   2400
Ala Val Asp Ala Thr Arg Glu Ala Gln Glu Leu Asn Ser Arg Asn Gln
          2405   2410   2415
Glu Arg Leu Glu Glu Ala Leu Gln Arg Lys Gln Glu Leu Ser Arg Asp
          2420   2425   2430
Asn Ala Thr Leu Gln Ala Thr Leu His Ala Ala Arg Asp Thr Leu Ala
          2435   2440   2445
Ser Val Phe Arg Leu Leu His Ser Leu Asp Gln Ala Lys Glu Glu Leu
          2450   2455   2460
Glu Arg Leu Ala Ala Ser Leu Asp Gly Ala Arg Thr Pro Leu Leu Gln
2465   2470   2475   2480
Arg Met Gln Thr Phe Ser Pro Ala Gly Ser Lys Leu Arg Leu Val Glu
          2485   2490   2495
Ala Ala Glu Ala His Ala Gln Gln Leu Gly Gln Leu Ala Leu Asn Leu
          2500   2505   2510
Ser Ser Ile Ile Leu Asp Val Asn Gln Asp Arg Leu Thr Gln Arg Ala
          2515   2520   2525
Ile Glu Ala Ser Asn Ala Tyr Ser Arg Ile Leu Gln Ala Val Gln Ala
          2530   2535   2540
Ala Glu Asp Ala Ala Gly Gln Ala Leu Gln Gln Ala Asp His Thr Trp
2545   2550   2555   2560
Ala Thr Val Val Arg Gln Gly Leu Val Asp Arg Ala Gln Gln Leu Leu
          2565   2570   2575
Ala Asn Ser Thr Ala Leu Glu Glu Ala Met Leu Gln Glu Gln Gln Arg
          2580   2585   2590
Leu Gly Leu Val Trp Ala Ala Leu Gln Gly Ala Arg Thr Gln Leu Arg
          2595   2600   2605
Asp Val Arg Ala Lys Lys Asp Gln Leu Glu Ala His Ile Gln Ala Ala
          2610   2615   2620
Gln Ala Met Leu Ala Met Asp Thr Asp Glu Thr Ser Lys Lys Ile Ala
2625   2630   2635   2640
His Ala Lys Ala Val Ala Ala Glu Ala Gln Asp Thr Ala Thr Arg Val
          2645   2650   2655

Gln Ser Gln Leu Gln Ala Met Gln Glu Asn Val Glu Arg Trp Gln Gly
          2660   2665   2670
Gln Tyr Glu Gly Leu Arg Gly Gln Asp Leu Gly Gln Ala Val Leu Asp
          2675   2680   2685
Ala Gly His Ser Val Ser Thr Leu Glu Lys Thr Leu Pro Gln Leu Leu
          2690·   2695   2700
Ala Lys Leu Ser Ile Leu Glu Asn Arg Gly Val His Asn Ala Ser Leu
2705   2710   2715   2720
Ala Leu Ser Ala Ser Ile Gly Arg Val Arg Glu Leu Ile Ala Gln Ala
                    2725   2730   2735
Arg Gly Ala Ala Ser Lys Val Lys Val Pro Met Lys Phe Asn Gly Arg
                    2740   2745   2750
Ser Gly Val Gln Leu Arg Thr Pro Arg Asp Leu Ala Asp Leu Ala Ala
          2755   2760   2765
Tyr Thr Ala Leu Lys Phe Tyr Leu Gln Gly Pro Glu Pro Glu Pro Gly
          2770   2775   2780
Gln Gly Thr Glu Asp Arg Phe Val Met Tyr Met Gly Ser Arg Gln Ala
2785   2790   2795   2800 .
Thr Gly Asp Tyr Met Gly Val Ser Leu Arg Asp Lys Lys Val His Trp
                    2805   2810   2815
Val Tyr Gln Leu Gly Glu Ala Gly Pro Ala Val Leu Ser Ile Asp Glu
                    2820   2825   2830
Asp Ile Gly Glu Gln Phe Ala Ala Val Ser Leu Asp Arg Thr Leu Gln
          2835   2840   2845
Phe Gly His Met Ser Val Thr Val Glu Arg Gln Met Ile Gln Glu Thr
          2850   2855   2860
Lys Gly Asp Thr Val Ala Pro Gly Ala Glu Gly Leu Leu Asn Leu Arg
2865   2870   2875   2880
Pro Asp Asp Phe Val Phe Tyr Val Gly Gly Tyr Pro Ser Thr Phe Thr
                    2885   2890   2895
Pro Pro Pro Leu Leu Arg Phe Pro Gly Tyr Arg Gly Cys Ile Glu Met
                    2900   2905   2910
Asp Thr Leu Asn Glu Glu Val Val Ser Leu Tyr Asn Phe Glu Arg Thr
          2915   2920   2925
Phe Gln Leu Asp Thr Ala Val Asp Arg Pro Cys Ala Arg Ser Lys Ser
          2930   2935   2940
Thr Gly Asp Pro Trp Leu Thr Asp Gly Ser Tyr Leu Asp Gly Thr Gly
2945   2950   2955   2960
Phe Ala Arg Ile Ser Phe Asp Ser Gln Ile Ser Thr Thr Lys Arg Phe
                    2965   2970   2975

Glu Gln Glu Leu Arg Leu Val Ser Tyr Ser Gly Val Leu Phe Phe Leu
          2980   2985   2990
Lys Gln Gln Ser Gln Phe Leu Cys Leu Ala Val Gln Glu Gly Ser Leu
          2995   3000   3005
Val Leu Leu Tyr Asp Phe Gly Ala Gly Leu Lys Lys Ala Val Pro Leu
          3010   3015   3020
Gln Pro Pro Pro Pro Leu Thr Ser Ala Ser Lys Ala Ile Gln Val Phe
3025   3030   3035   3040
Leu Leu Gly Gly Ser Arg Lys Arg Val Leu Val Arg Val Glu Arg Ala
          3045   3050   3055
Thr Val Tyr Ser Val Glu Gln Asp Asn Asp Leu Glu Leu Ala Asp Ala
          3060   3065   3070
Tyr Tyr Leu Gly Gly Val Pro Pro Asp Gln Leu Pro Pro Ser Leu Arg
          3075   3080   3085
Arg Leu Phe Pro Thr Gly Gly Ser Val Arg Gly Cys Val Lys Gly Ile
          3090   3095   3100
Lys Ala Leu Gly Lys Tyr Val Asp Leu Lys Arg Leu Asn Thr Thr Gly
3105   3110   3115   3120
Val Ser Ala Gly Cys Thr Ala Asp Leu Leu Val Gly Arg Ala Met Thr
          3125   3130   3135
Phe His Gly His Gly Phe Leu Arg Leu Ala Leu Ser Asn Val Ala Pro
          3140   3145   3150
Leu Thr Gly Asn Val Tyr Ser Gly Phe Gly Phe His Ser Ala Gln Asp
          3155   3160   3165
Ser Ala Leu Leu Tyr Tyr Arg Ala Ser Pro Asp Gly Leu Cys Gln Val
          3170   3175   3180
Ser Leu Gln Gln Gly Arg Val Ser Leu Gln Leu Leu Arg Thr Glu Val
3185   3190   3195   3200
Lys Thr Gln Ala Gly Phe Ala Asp Gly Ala Pro His Tyr Val Ala Phe
          3205   3210   3215
Tyr Ser Asn Ala Thr Gly Val Trp Leu Tyr Val Asp Asp Gln Leu Gln
          3220   3225   3230
Gln Met Lys Pro His Arg Gly Pro Pro Pro Glu Leu Gln Pro Gln Pro
          3235   3240   3245
Glu Gly Pro Pro Arg Leu Leu Leu Gly Gly Leu Pro Glu Ser Gly Thr
          3250   3255   3260
Ile Tyr Asn Phe Ser Gly Cys Ile Ser Asn Val Phe Val Gln Arg Leu
3265   3270   3275   3280
Leu Gly Pro Gln Arg Val Phe Asp Leu Gln Gln Asn Leu Gly Ser Val
          3285   3290   3295

Asn Val Ser Thr Gly Cys Ala Pro Ala Leu Gln Ala Gln Thr Pro Gly
         3300   3305   3310
Leu Gly Pro Arg Gly Leu Gln Ala Thr Ala Arg Lys Ala Ser Arg Arg
         3315   3320   3325
Ser Arg Gln Pro Ala Arg His Pro Ala Cys Met Leu Pro Pro His Leu
         3330   3335   3340
Arg Thr Thr Arg Asp Ser Tyr Gln Phe Gly Gly Ser Leu Ser Ser His
3345   3350   3355   3360
Leu Glu Phe Val Gly Ile Leu Ala Arg His Arg Asn Trp Pro Ser Leu
             3365   3370   3375
Ser Met His Val Leu Pro Arg Ser Ser Arg Gly Leu Leu Leu Phe Thr
             3380   3385   3390
Ala Arg Leu Arg Pro Gly Ser Pro Ser Leu Ala Leu Phe Leu Ser Asn
             3395   3400   3405
Gly His Phe Val Ala Gln Met Glu Gly Leu Gly Thr Arg Leu Arg Ala
         3410   3415   3420
Gln Ser Arg Gln Arg Ser Arg Pro Gly Arg Trp His Lys Val Ser Val
3425   3430   3435   3440
Arg Trp Glu Lys Asn Arg Ile Leu Leu Val Thr Asp Gly Ala Arg Ala
             3445   3450   3455
Trp Ser Gln Glu Gly Pro His Arg Gln His Gln Gly Ala Glu His Pro
             3460   3465   3470
Gln Pro His Thr Leu Phe Val Gly Gly Leu Pro Ala Ser Ser His Ser
             3475   3480   3485
Ser Lys Leu Pro Val Thr Val Gly Phe Ser Gly Cys Val Lys Arg Leu
         3490   3495   3500
Arg Leu His Gly Arg Pro Leu Gly Ala Pro Thr Arg Met Ala Gly Val
3505   3510   3515   3520
Thr Pro Cys Ile Leu Gly Pro Leu Glu Ala Gly Leu Phe Phe Pro Gly
             3525   3530   3535
Ser Gly Gly Val Ile Thr Leu Asp Leu Pro Gly Ala Thr Leu Pro Asp
         3540   3545   3550
Val Gly Leu Glu Leu Glu Val Arg Pro Leu Ala Val Thr Gly Leu Ile
         3555   3560   3565
Phe His Leu Gly Gln Ala Arg Thr Pro Pro Tyr Leu Gln Leu Gln Val
         3570   3575   3580
Thr Glu Lys Gln Val Leu Leu Arg Ala Asp Asp Gly Ala Gly Glu Phe
3585   3590   3595   3600
Ser Thr Ser Val Thr Arg Pro Ser Val Leu Cys Asp Gly Gln Trp His
         3605   3610   3615

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Arg Leu Ala Val Met Lys Ser Gly Asn Val Leu Arg Leu Glu Val Asp
            3620                3625            3630
Ala Gln Ser Asn His Thr Val Gly Pro Leu Leu Ala Ala Ala Ala Gly
        3635                3640                3645
Ala Pro Ala Pro Leu Tyr Leu Gly Gly Leu Pro Glu Pro Met Ala Val
        3650                3655                3660
Gln Pro Trp Pro Pro Ala Tyr Cys Gly Cys Met Arg Arg Leu Ala Val
3665                3670                3675                3680
Asn Arg Ser Pro Val Ala Met Thr Arg Ser Val Glu Val His Gly Ala
            3685                3690                3695
Val Gly Ala Ser Gly Cys Pro Ala Ala
            3700                3705


<210> 31
<211> 3696
<212> PRT
<213> Homo sapiens

<400> 31
Met Ala Lys Arg Leu Cys Ala Gly Ser Ala Leu Cys Val Arg Gly Pro
 1               5                10                15
Arg Gly Pro Ala Pro Leu Leu Leu Val Gly Leu Ala Leu Leu Gly Ala
            20                25                30
Ala Arg Ala Arg Glu Glu Ala Gly Gly Gly Phe Ser Leu His Pro Pro
        35                40                45
Tyr Phe Asn Leu Ala Glu Gly Ala Arg Ile Ala Ala Ser Ala Thr Cys
        50                55                60
Gly Glu Glu Ala Pro Ala Arg Gly Ser Pro Arg Pro Thr Glu Asp Leu
65                70                75                80
Tyr Cys Lys Leu Val Gly Gly Pro Val Ala Gly Gly Asp Pro Asn Gln
                85                90                95
Thr Ile Arg Gly Gln Tyr Cys Asp Ile Cys Thr Ala Ala Asn Ser Asn
            100                105                110
Lys Ala His Pro Ala Ser Asn Ala Ile Asp Gly Thr Glu Arg Trp Trp
        115                120                125
Gln Ser Pro Pro Leu Ser Arg Gly Leu Glu Tyr Asn Glu Val Asn Val
        130                135                140
Thr Leu Asp Leu Gly Gln Val Phe His Val Ala Tyr Val Leu Ile Lys
145                150                155                160
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Phe Ala Asn Ser Pro Arg Pro Asp Leu Trp Val Leu Glu Arg Ser Met
                165   170   175
Asp Phe Gly Arg Thr Tyr Gln Pro Trp Gln Phe Phe Ala Ser Ser Lys
            180   185   190
Arg Asp Cys Leu Glu Arg Phe Gly Pro Gln Thr Leu Glu Arg Ile Thr
            195   200   205
Arg Asp Asp Ala Ala Ile Cys Thr Thr Glu Tyr Ser Arg Ile Val Pro
    210   215   220
Leu Glu Asn Gly Glu Ile Val Val Ser Leu Val Asn Gly Arg Pro Gly
225   230   235   240
Ala Met Asn Phe Ser Tyr Ser Pro Leu Leu Arg Glu Phe Thr Lys Ala
            245   250   255
Thr Asn Val Arg Leu Arg Phe Leu Arg Thr Asn Thr Leu Leu Gly His
            260   265   270
Leu Met Gly Lys Ala Leu Arg Asp Pro Thr Val Thr Arg Arg Tyr Tyr
            275   280   285
Tyr Ser Ile Lys Asp Ile Ser Ile Gly Gly Arg Cys Val Cys His Gly
    290   295   300
His Ala Asp Ala Cys Asp Ala Lys Asp Pro Thr Asp Pro Phe Arg Leu
305   310   315   320
Gln Cys Thr Cys Gln His Asn Thr Cys Gly Gly Thr Cys Asp Arg Cys
            325   330   335
Cys Pro Gly Phe Asn Gln Gln Pro Trp Lys Pro Ala Thr Ala Asn Ser
            340   345   350
Ala Asn Glu Cys Gln Ser Cys Asn Cys Tyr Gly His Ala Thr Asp Cys
            355   360   365
Tyr Tyr Asp Pro Glu Val Asp Arg Arg Arg Ala Ser Gln Ser Leu Asp
    370   375   380
Gly Thr Tyr Gln Gly Gly Gly Val Cys Ile Asp Cys Gln His His Thr
385   390   395   400
Thr Gly Val Asn Cys Glu Arg Cys Leu Pro Gly Phe Tyr Arg Ser Pro
            405   410   415
Asn His Pro Leu Asp Ser Pro His Val Cys Arg Arg Cys Asn Cys Glu
            420   425   430
Ser Asp Phe Thr Asp Gly Thr Cys Glu Asp Leu Thr Gly Arg Cys Tyr
            435   440   445
Cys Arg Pro Asn Phe Ser Gly Glu Arg Cys Asp Val Cys Ala Glu Gly
    450   455   460
Phe Thr Gly Phe Pro Ser Cys Tyr Pro Thr Pro Ser Ser Ser Asn Asp
465   470   475   480

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Thr Arg Glu Gln Val Leu Pro Ala Gly Gln Ile Val Asn Cys Asp Cys
              485                 490                 495
Ser Ala Ala Gly Thr Gln Gly Asn Ala Cys Arg Lys Asp Pro Arg Val
              500                 505                 510
Gly Arg Cys Leu Cys Lys Pro Asn Phe Gln Gly Thr His Cys Glu Leu
              515                 520                 525
Cys Ala Pro Gly Phe Tyr Gly Pro Gly Cys Gln Pro Cys Gln Cys Ser
         530                 535                 540
Ser Pro Gly Val Ala Asp Asp Arg Cys Asp Pro Asp Thr Gly Gln Cys
545                 550                 555                 560
Arg Cys Arg Val Gly Phe Glu Gly Ala Thr Cys Asp Arg Cys Ala Pro
              565                 570                 575
Gly Tyr Phe His Phe Pro Leu Cys Gln Leu Cys Gly Cys Ser Pro Ala
              580                 585                 590
Gly Thr Leu Pro Glu Gly Cys Asp Glu Ala Gly Arg Cys Leu Cys Gln
         595                 600                 605
Pro Glu Phe Ala Gly Pro His Cys Asp Arg Cys Arg Pro Gly Tyr His
         610                 615                 620
Gly Phe Pro Asn Cys Gln Ala Cys Thr Cys Asp Pro Arg Gly Ala Leu
625                 630                 635                 640
Asp Gln Leu Cys Gly Ala Gly Gly Leu Cys Arg Cys Arg Pro Gly Tyr
              645                 650                 655
Thr Gly Thr Ala Cys Gln Glu Cys Ser Pro Gly Phe His Gly Phe Pro
              660                 665                 670
Ser Cys Val Pro Cys His Cys Ser Ala Glu Gly Ser Leu His Ala Ala
         675                 680                 685
Cys Asp Pro Arg Ser Gly Gln Cys Ser Cys Arg Pro Arg Val Thr Gly
         690                 695                 700
Leu Arg Cys Asp Thr Cys Val Pro Gly Ala Tyr Asn Phe Pro Tyr Cys
705                 710                 715                 720
Glu Ala Gly Ser Cys His Pro Ala Gly Leu Ala Pro Val Asp Pro Ala
              725                 730                 735
Leu Pro Glu Ala Gln Val Pro Cys Met Cys Arg Ala His Val Glu Gly
              740                 745                 750
Pro Ser Cys Asp Arg Cys Lys Pro Gly Phe Trp Gly Leu Ser Pro Ser
         755                 760                 765
Asn Pro Glu Gly Cys Thr Arg Cys Ser Cys Asp Leu Arg Gly Thr Leu
         770                 775                 780
Gly Gly Val Ala Glu Cys Gln Pro Gly Thr Gly Gln Cys Phe Cys Lys
785                 790                 795                 800
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Pro His Val Cys Gly Gln Ala Cys Ala Ser Cys Lys Asp Gly Phe Phe
              805                 810                 815
Gly Leu Asp Gln Ala Asp Tyr Phe Gly Cys Arg Ser Cys Arg Cys Asp
              820                 825                 830
Ile Gly Gly Ala Leu Gly Gln Ser Cys Glu Pro Arg Thr Gly Val Cys
              835                 840                 845
Arg Cys Arg Pro Asn Thr Gln Gly Pro Thr Cys Ser Glu Pro Ala Arg
      850                 855                 860
Asp His Tyr Leu Pro Asp Leu His His Leu Arg Leu Glu Leu Glu Glu
865                 870                 875                 880
Ala Ala Thr Pro Glu Gly His Ala Val Arg Phe Gly Phe Asn Pro Leu
              885                 890                 895
Glu Phe Glu Asn Phe Ser Trp Arg Gly Tyr Ala Gln Met Ala Pro Val
              900                 905                 910
Gln Pro Arg Ile Val Ala Arg Leu Asn Leu Thr Ser Pro Asp Leu Phe
              915                 920                 925
Trp Leu Val Phe Arg Tyr Val Asn Arg Gly Ala Met Ser Val Ser Gly
      930                 935                 940
Arg Val Ser Val Arg Glu Glu Gly Arg Ser Ala Thr Cys Ala Asn Cys
945                 950                 955                 960
Thr Ala Gln Ser Gln Pro Val Ala Phe Pro Pro Ser Thr Glu Pro Ala
              965                 970                 975
Phe Ile Thr Val Pro Gln Arg Gly Phe Gly Glu Pro Phe Val Leu Asn
              980                 985                 990
Pro Gly Thr Trp Ala Leu Arg Val Glu Ala Glu Gly Val Leu Leu Asp
      995                 1000                1005
Tyr Val Val Leu Leu Pro Ser Ala Tyr Tyr Glu Ala Ala Leu Leu Gln
      1010                1015                1020
Leu Arg Val Thr Glu Ala Cys Thr Tyr Arg Pro Ser Ala Gln Gln Ser
1025                1030                1035                1040
Gly Asp Asn Cys Leu Leu Tyr Thr His Leu Pro Leu Asp Gly Phe Pro
              1045                1050                1055
Ser Ala Ala Gly Leu Glu Ala Leu Cys Arg Gln Asp Asn Ser Leu Pro
              1060                1065                1070
Arg Pro Cys Pro Thr Glu Gln Leu Ser Pro Ser His Pro Pro Leu Ile
      1075                1080                1085
Thr Cys Thr Gly Ser Asp Val Asp Val Gln Leu Gln Val Ala Val Pro
      1090                1095                1100
Gln Pro Gly Arg Tyr Ala Leu Val Val Glu Tyr Ala Asn Glu Asp Ala
1105                1110                1115                1120
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Arg Gln Glu Val Gly Val Ala Val His Thr Pro Gln Arg Ala Pro Gln
            1125              1130              1135
Gln Gly Leu Leu Ser Leu His Pro Cys Leu Tyr Ser Thr Leu Cys Arg
        1140              1145              1150
Gly Thr Ala Arg Asp Thr Gln Asp His Leu Ala Val Phe His Leu Asp
        1155              1160              1165
Ser Glu Ala Ser Val Arg Leu Thr Ala Glu Gln Ala Arg Phe Phe Leu
    1170              1175              1180
His Gly Val Thr Leu Val Pro Ile Glu Glu Phe Ser Pro Glu Phe Val
1185              1190              1195              1200
Glu Pro Arg Val Ser Cys Ile Ser Ser His Gly Ala Phe Gly Pro Asn
            1205              1210              1215
Ser Ala Ala Cys Leu Pro Ser Arg Phe Pro Lys Pro Pro Gln Pro Ile
            1220              1225              1230
Ile Leu Arg Asp Cys Gln Val Ile Pro Leu Pro Pro Gly Leu Pro Leu
        1235              1240              1245
Thr His Ala Gln Asp Leu Thr Pro Ala Met Ser Pro Ala Gly Pro Arg
    1250              1255              1260
Pro Arg Pro Pro Thr Ala Val Asp Pro Asp Ala Glu Pro Thr Leu Leu
1265              1270              1275              1280
Arg Glu Pro Gln Ala Thr Val Val Phe Thr Thr His Val Pro Thr Leu
            1285              1290              1295
Gly Arg Tyr Ala Phe Leu Leu His Gly Tyr Gln Pro Ala His Pro Thr
        1300              1305              1310
Phe Pro Val Glu Val Leu Ile Asn Ala Gly Arg Val Trp Gln Gly His
        1315              1320              1325
Ala Asn Ala Ser Phe Cys Pro His Gly Tyr Gly Cys Arg Thr Leu Val
    1330              1335              1340
Val Cys Glu Gly Gln Ala Leu Leu Asp Val Thr His Ser Glu Leu Thr
1345              1350              1355              1360
Val Thr Val Arg Val Pro Lys Gly Arg Trp Leu Trp Leu Asp Tyr Val
        1365              1370              1375
Leu Val Val Pro Glu Asn Val Tyr Ser Phe Gly Tyr Leu Arg Glu Glu
        1380              1385              1390
Pro Leu Asp Lys Ser Tyr Asp Phe Ile Ser His Cys Ala Ala Gln Gly
        1395              1400              1405
Tyr His Ile Ser Pro Ser Ser Ser Leu Phe Cys Arg Asn Ala Ala
    1410              1415              1420
Ala Ser Leu Ser Leu Phe Tyr Asn Asn Gly Ala Arg Pro Cys Gly Cys
1425              1430              1435              1440
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His Glu Val Gly Ala Thr Gly Pro Thr Cys Glu Pro Phe Gly Gly Gln
            1445   1450   1455
Cys Pro Cys His Ala His Val Ile Gly Arg Asp Cys Ser Arg Cys Ala
            1460   1465   1470
Thr Gly Tyr Trp Gly Phe Pro Asn Cys Arg Pro Cys Asp Cys Gly Ala
            1475   1480   1485
Arg Leu Cys Asp Glu Leu Thr Gly Gln Cys Ile Cys Pro Pro Arg Thr
        1490   1495   1500
Ile Pro Pro Asp Cys Leu Leu Cys Gln Pro Gln Thr Phe Gly Cys His
1505   1510   1515   1520
Pro Leu Val Gly Cys Glu Glu Cys Asn Cys Ser Gly Pro Gly Ile Gln
            1525   1530   1535
Glu Leu Thr Asp Pro Thr Cys Asp Thr Asp Ser Gly Gln Cys Lys Cys
            1540   1545   1550
Arg Pro Asn Val Thr Gly Arg Arg Cys Asp Thr Cys Ser Pro Gly Phe
        1555   1560   1565
His Gly Tyr Pro Arg Cys Arg Pro Cys Asp Cys His Glu Ala Gly Thr
        1570   1575   1580
Ala Pro Gly Val Cys Asp Pro Leu Thr Gly Gln Cys Tyr Cys Lys Glu
1585   1590   1595   1600
Asn Val Gln Gly Pro Lys Cys Asp Gln Cys Ser Leu Gly Thr Phe Ser
            1605   1610   1615
Leu Asp Ala Ala Asn Pro Lys Gly Cys Thr Arg Cys Phe Cys Phe Gly
            1620   1625   1630
Ala Thr Glu Arg Cys Arg Ser Ser Ser Tyr Thr Arg Gln Glu Phe Val
        1635   1640   .1645
Asp Met Glu Gly Trp Val Leu Leu Ser Thr Asp Arg Gln Val Val Pro
        1650   1655   1660
His Glu Arg Gln Pro Gly Thr Glu Met Leu Arg Ala Asp Leu Arg His
1665   1670   1675   1680
Val Pro Glu Ala Val Pro Glu Ala Phe Pro Glu Leu Tyr Trp Gln Ala
            1685   1690   1695
Pro Pro Ser Tyr Leu Gly Asp Arg Val Ser Ser Tyr Gly Gly Thr Leu
            1700   1705   1710
Arg Tyr Glu Leu His Ser Glu Thr Gln Arg Gly Asp Val Phe Val Pro
        1715   1720   1725
Met Glu Ser Arg Pro Asp Val Val Leu Gln Gly Asn Gln Met Ser Ile
        1730   1735   1740
Thr Phe Leu Glu Pro Ala Tyr Pro Thr Pro Gly His Val His Arg Gly
1745   1750   1755   1760

Gln Leu Gln Leu Val Glu Gly Asn Phe Arg His Thr Glu Thr Arg Asn
          1765   1770   1775
Thr Val Ser Arg Glu Glu Leu Met Met Val Leu Ala Ser Leu Glu Gln
          1780   1785   1790
Leu Gln Ile Arg Ala Leu Phe Ser Gln Ile Ser Ser Ala Val Phe Leu
          1795   1800   1805
Arg Arg Val Ala Leu Glu Val Ala Ser Pro Ala Gly Gln Gly Ala Leu
         1810   1815   1820
Ala Ser Asn Val Glu Leu Cys Leu Cys Pro Ala Ser Tyr Arg Gly Asp
1825   1830   1835   1840
Ser Cys Gln Glu Cys Ala Pro Gly Phe Tyr Arg Asp Val Lys Gly Leu
          1845   1850   1855
Phe Leu Gly Arg Cys Val Pro Cys Gln Cys His Gly His Ser Asp Arg
          1860   1865   1870
Cys Leu Pro Gly Ser Gly Val Cys Val Asp Cys Gln His Asn Thr Glu
          1875   1880   1885
Gly Ala His Cys Glu Arg Cys Gln Ala Gly Phe Val Ser Ser Arg Asp
          1890   1895   1900
Asp Pro Ser Ala Pro Cys Val Ser Cys Pro Cys Pro Leu Ser Val Pro
1905   1910   1915   1920
Ser Asn Asn Phe Ala Glu Gly Cys Val Leu Arg Gly Gly Arg Thr Gln
          1925   1930   1935
Cys Leu Cys Lys Pro Gly Tyr Ala Gly Ala Ser Cys Glu Arg Cys Ala
          1940   1945   1950
Pro Gly Phe Phe Gly Asn Pro Leu Val Leu Gly Ser Ser Cys Gln Pro
          1955   1960   1965
Cys Asp Cys Ser Gly Asn Gly Asp Pro Asn Leu Leu Phe Ser Asp Cys
          1970   1975   1980
Asp Pro Leu Thr Gly Ala Cys Arg Gly Cys Leu Arg His Thr Thr Gly
1985   1990   1995   2000
Pro Arg Cys Glu Ile Cys Ala Pro Gly Phe Tyr Gly Asn Ala Leu Leu
          2005   2010   2015
Pro Gly Asn Cys Thr Arg Cys Asp Cys Thr Pro Cys Gly Thr Glu Ala
          2020   2025   2030
Cys Asp Pro His Ser Gly His Cys Leu Cys Lys Ala Gly Val Thr Gly
          2035   2040   2045
Arg Arg Cys Asp Arg Cys Gln Glu Gly His Phe Gly Phe Asp Gly Cys
          2050   2055   2060
Gly Gly Cys Arg Pro Cys Ala Cys Gly Pro Ala Ala Glu Gly Ser Glu
2065   2070   2075   2080

Cys His Pro Gln Ser Gly Gln Cys His Cys Arg Pro Gly Thr Met Gly
                2085   2090   2095
Pro Gln Cys Arg Glu Cys Ala Pro Gly Tyr Trp Gly Leu Pro Glu Gln
                2100   2105   2110
Gly Cys Arg Arg Cys Gln Cys Pro Gly Gly Arg Cys Asp Pro His Thr
                2115   2120   2125
Gly Arg Cys Asn Cys Pro Pro Gly Leu Ser Gly Glu Arg Cys Asp Thr
             2130   2135   2140
Cys Ser Gln Gln His Gln Val Pro Val Pro Gly Gly Pro Val Gly His
2145   2150   2155   2160
Ser Ile His Cys Glu Val Cys Asp His Cys Val Val Leu Leu Leu Asp
                2165   2170   2175
Asp Leu Glu Arg Ala Gly Ala Leu Leu Pro Ala Ile His Glu Gln Leu
                2180   2185   2190
Arg Gly Ile Asn Ala Ser Ser Met Ala Trp Ala Arg Leu His Arg Leu
             2195   2200   2205
Asn Ala Ser Ile Ala Asp Leu Gln Ser Gln Leu Arg Ser Pro Leu Gly
             2210   2215   2220
Pro Arg His Glu Thr Ala Gln Gln Leu Glu Val Leu Glu Gln Gln Ser
2225   2230   2235   2240
Thr Ser Leu Gly Gln Asp Ala Arg Arg Leu Gly Gly Gln Ala Ala Val
             2245   2250   2255
Gly Thr Arg Asp Gln Ala Ser Gln Leu Leu Ala Gly Thr Glu Ala Thr
                2260   2265   2270
Leu Gly His Ala Lys Thr Leu Leu Ala Ala Ile Arg Ala Val Asp Arg
             2275   2280   2285
Thr Leu Ser Glu Leu Met Ser Gln Thr Gly His Leu Gly Leu Ala Asn
             2290   2295   2300
Ala Ser Ala Pro Ser Gly Glu Gln Leu Leu Arg Thr Leu Ala Glu Val
2305   2310   2315   2320
Glu Arg Leu Leu Trp Glu Met Arg Ala Arg Asp Leu Gly Ala Pro Gln
                2325   2330   2335
Ala Ala Ala Glu Ala Glu Leu Ala Ala Ala Gln Arg Leu Leu Ala Arg
             2340   2345   2350
Val Gln Glu Gln Leu Ser Ser Leu Trp Glu Glu Asn Gln Ala Leu Ala
             2355   2360   2365
Thr Gln Thr Arg Asp Arg Leu Ala Gln His Glu Ala Gly Leu Met Asp
             2370   2375   2380
Leu Arg Glu Ala Leu Asn Arg Ala Val Asp Ala Thr Arg Glu Ala Gln
2385   2390   2395   2400

Glu Leu Asn Ser Arg Asn Gln Glu Arg Leu Glu Glu Ala Leu Gln Arg
                2405   2410   2415
Lys Gln Glu Leu Ser Arg Asp Asn Ala Thr Leu Gln Ala Thr Leu His
                2420   2425   2430
Ala Ala Arg Asp Thr Leu Ala Ser Val Phe Arg Leu Leu His Ser Leu
            2435   2440   2445
Asp Gln Ala Lys Glu Glu Leu Glu Arg Leu Ala Ala Ser Leu Asp Gly
        2450   2455   2460
Ala Arg Thr Pro Leu Leu Gln Arg Met Gln Thr Phe Ser Pro Ala Gly
2465   2470   2475   2480
Ser Lys Leu Arg Leu Val Glu Ala Ala Glu Ala His Ala Gln Gln Leu
                2485   2490   2495
Gly Gln Leu Ala Leu Asn Leu Ser Ser Ile Ile Leu Asp Val Asn Gln
            2500   2505   2510
Asp Arg Leu Thr Gln Arg Ala Ile Glu Ala Ser Asn Ala Tyr Ser Arg
            2515   2520   2525
Ile Leu Gln Ala Val Gln Ala Ala Glu Asp Ala Ala Gly Gln Ala Leu
        2530   2535   2540
Gln Gln Ala Asp His Thr Trp Ala Thr Val Val Arg Gln Gly Leu Val
2545   2550   2555   2560
Asp Arg Ala Gln Gln Leu Leu Ala Asn Ser Thr Ala Leu Glu Glu Ala
                2565   2570   2575
Met Leu Gln Glu Gln Gln Arg Leu Gly Leu Val Trp Ala Ala Leu Gln
            2580   2585   2590
Gly Ala Arg Thr Gln Leu Arg Asp Val Arg Ala Lys Lys Asp Gln Leu
            2595   2600   2605
Glu Ala His Ile Gln Ala Ala Gln Ala Met Leu Ala Met Asp Thr Asp
        2610   2615   2620
Glu Thr Ser Lys Lys Ile Ala His Ala Lys Ala Val Ala Ala Glu Ala
2625   2630   2635   2640
Gln Asp Thr Ala Thr Arg Val Gln Ser Gln Leu Gln Ala Met Gln Glu
            2645   2650   2655
Asn Val Glu Arg Trp Gln Gly Gln Tyr Glu Gly Leu Arg Gly Gln Asp
            2660   2665   2670
Leu Gly Gln Ala Val Leu Asp Ala Gly His Ser Val Ser Thr Leu Glu
        2675   2680   2685
Lys Thr Leu Pro Gln Leu Leu Ala Lys Leu Ser Ile Leu Glu Asn Arg
        2690   2695   2700
Gly Val His Asn Ala Ser Leu Ala Leu Ser Ala Ser Ile Gly Arg Val
2705   2710   2715   2720

Arg Glu Leu Ile Ala Gln Ala Arg Gly Ala Ala Ser Lys Val Lys Val
              2725   2730   2735
Pro Met Lys Phe Asn Gly Arg Ser Gly Val Gln Leu Arg Thr Pro Arg
          2740   2745   2750
Asp Leu Ala Asp Leu Ala Ala Tyr Thr Ala Leu Lys Phe Tyr Leu Gln
          2755   2760   2765
Gly Pro Glu Pro Glu Pro Gly Gln Gly Thr Glu Asp Arg Phe Val Met
      2770   2775   2780
Tyr Met Gly Ser Arg Gln Ala Thr Gly Asp Tyr Met Gly Val Ser Leu
2785   2790   2795   2800
Arg Asp Lys Lys Val His Trp Val Tyr Gln Leu Gly Glu Ala Gly Pro
              2805   2810   2815
Ala Val Leu Ser Ile Asp Glu Asp Ile Gly Glu Gln Phe Ala Ala Val
              2820   2825   2830
Ser Leu Asp Arg Thr Leu Gln Phe Gly His Met Ser Val Thr Val Glu
          2835   2840   2845
Arg Gln Met Ile Gln Glu Thr Lys Gly Asp Thr Val Ala Pro Gly Ala
          2850   2855   2860
Glu Gly Leu Leu Asn Leu Arg Pro Asp Asp Phe Val Phe Tyr Val Gly
2865   2870   2875   2880
Gly Tyr Pro Ser Thr Phe Thr Pro Pro Leu Leu Arg Phe Pro Gly
              2885   2890   2895
Tyr Arg Gly Cys Ile Glu Met Asp Thr Leu Asn Glu Glu Val Val Ser
              2900   2905   2910
Leu Tyr Asn Phe Glu Arg Thr Phe Gln Leu Asp Thr Ala Val Asp Arg
          2915   2920   2925
Pro Cys Ala Arg Ser Lys Ser Thr Gly Asp Pro Trp Leu Thr Asp Gly
          2930   2935   2940
Ser Tyr Leu Asp Gly Thr Gly Phe Ala Arg Ile Ser Phe Asp Ser Gln
2945   2950   2955   2960
Ile Ser Thr Thr Lys Arg Phe Glu Gln Glu Leu Arg Leu Val Ser Tyr
              2965   2970   2975
Ser Gly Val Leu Phe Phe Leu Lys Gln Gln Ser Gln Phe Leu Cys Leu
              2980   2985   2990
Ala Val Gln Glu Gly Ser Leu Val Leu Leu Tyr Asp Phe Gly Ala Gly
          2995   3000   3005
Leu Lys Lys Ala Val Pro Leu Gln Pro Pro Pro Leu Thr Ser Ala
          3010   3015   3020
Ser Lys Ala Ile Gln Val Phe Leu Leu Gly Gly Ser Arg Lys Arg Val
3025   3030   3035   3040

```
Leu Val Arg Val Glu Arg Ala Thr Val Tyr Ser Val Glu Gln Asp Asn
            3045                3050                3055
Asp Leu Glu Leu Ala Asp Ala Tyr Tyr Leu Gly Gly Val Pro Pro Asp
            3060                3065                3070
Gln Leu Pro Pro Ser Leu Arg Arg Leu Phe Pro Thr Gly Gly Ser Val
            3075                3080                3085
Arg Gly Cys Val Lys Gly Ile Lys Ala Leu Gly Lys Tyr Val Asp Leu
        3090                3095                3100
Lys Arg Leu Asn Thr Thr Gly Val Ser Ala Gly Cys Thr Ala Asp Leu
3105                3110                3115                3120
Leu Val Gly Arg Ala Met Thr Phe His Gly His Gly Phe Leu Arg Leu
            3125                3130                3135
Ala Leu Ser Asn Val Ala Pro Leu Thr Gly Asn Val Tyr Ser Gly Phe
            3140                3145                3150
Gly Phe His Ser Ala Gln Asp Ser Ala Leu Leu Tyr Tyr Arg Ala Ser
            3155                3160                3165
Pro Asp Gly Leu Cys Gln Val Ser Leu Gln Gln Gly Arg Val Ser Leu
            3170                3175                3180
Gln Leu Leu Arg Thr Glu Val Lys Thr Gln Ala Gly Phe Ala Asp Gly
3185                3190                3195                3200
Ala Pro His Tyr Val Ala Phe Tyr Ser Asn Ala Thr Gly Val Trp Leu
            3205                3210                3215
Tyr Val Asp Asp Gln Leu Gln Gln Met Lys Pro His Arg Gly Pro Pro
            3220                3225                3230
Pro Glu Leu Gln Pro Gln Pro Glu Gly Pro Pro Arg Leu Leu Leu Gly
            3235                3240                3245
Gly Leu Pro Glu Ser Gly Thr Ile Tyr Asn Phe Ser Gly Cys Ile Ser
            3250                3255                3260
Asn Val Phe Val Gln Arg Leu Leu Gly Pro Gln Arg Val Phe Asp Leu
3265                3270                3275                3280
Gln Gln Asn Leu Gly Ser Val Asn Val Ser Thr Gly Cys Ala Pro Ala
            3285                3290                3295
Leu Gln Ala Gln Thr Pro Gly Leu Gly Pro Arg Gly Leu Gln Ala Thr
            3300                3305                3310
Ala Arg Lys Ala Ser Arg Arg Ser Arg Gln Pro Ala Arg His Pro Ala
            3315                3320                3325
Cys Met Leu Pro Pro His Leu Arg Thr Thr Arg Asp Ser Tyr Gln Phe
            3330                3335                3340
Gly Gly Ser Leu Ser Ser His Leu Glu Phe Val Gly Ile Leu Ala Arg
3345                3350                3355                3360
```

His Arg Asn Trp Pro Ser Leu Ser Met His Val Leu Pro Arg Ser Ser
          3365   3370   3375

Arg Gly Leu Leu Leu Phe Thr Ala Arg Leu Arg Pro Gly Ser Pro Ser
          3380   3385   3390

Leu Ala Leu Phe Leu Ser Asn Gly His Phe Val Ala Gln Met Glu Gly
          3395   3400   3405

Leu Gly Thr Arg Leu Arg Ala Gln Ser Arg Gln Arg Ser Arg Pro Gly
          3410   3415   3420

Arg Trp His Lys Val Ser Val Arg Trp Glu Lys Asn Arg Ile Leu Leu
3425   3430   3435   3440

Val Thr Asp Gly Ala Arg Ala Trp Ser Gln Glu Gly Pro His Arg Gln
            3445   3450   3455

His Gln Gly Ala Glu His Pro Gln Pro His Thr Leu Phe Val Gly Gly
            3460   3465   3470

Leu Pro Ala Ser Ser His Ser Ser Lys Leu Pro Val Thr Val Gly Phe
          3475   3480   3485

Ser Gly Cys Val Lys Arg Leu Arg Leu His Gly Arg Pro Leu Gly Ala
          3490   3495   3500

Pro Thr Arg Met Ala Gly Val Thr Pro Cys Ile Leu Gly Pro Leu Glu
3505   3510   3515   3520

Ala Gly Leu Phe Phe Pro Gly Ser Gly Gly Val Ile Thr Leu Asp Leu
          3525   3530   3535

Pro Gly Ala Thr Leu Pro Asp Val Gly Leu Glu Leu Glu Val Arg Pro
          3540   3545   3550

Leu Ala Val Thr Gly Leu Ile Phe His Leu Gly Gln Ala Arg Thr Pro
          3555   3560   3565

Pro Tyr Leu Gln Leu Gln Val Thr Glu Lys Gln Val Leu Leu Arg Ala
          3570   3575   3580

Asp Asp Gly Ala Gly Glu Phe Ser Thr Ser Val Thr Arg Pro Ser Val
3585   3590   3595   3600

Leu Cys Asp Gly Gln Trp His Arg Leu Ala Val Met Lys Ser Gly Asn
          3605   3610   3615

Val Leu Arg Leu Glu Val Asp Ala Gln Ser Asn His Thr Val Gly Pro
          3620   3625   3630

Leu Leu Ala Ala Ala Ala Gly Ala Pro Ala Pro Leu Tyr Leu Gly Gly
          3635   3640   3645

Leu Pro Glu Pro Met Ala Val Gln Pro Trp Pro Pro Ala Tyr Cys Gly
          3650   3655   3660

Cys Met Arg Arg Leu Ala Val Asn Arg Ser Pro Val Ala Met Thr Arg
3665   3670   3675   3680

Ser Val Glu Val His Gly Ala Val Gly Ala Ser Gly Cys Pro Ala Ala
                3685   3690   3695

<210> 32
<211> 337
<212> PRT
<213> Homo sapiens

<400> 32
Met Thr Asn Asn Ser Gly Ser Lys Ala Glu Leu Val Val Gly Gly Lys
 1   5   10   15
Tyr Lys Leu Val Arg Lys Ile Gly Ser Gly Ser Phe Gly Asp Val Tyr
            20   25   30
Leu Gly Ile Thr Thr Thr Asn Gly Glu Asp Val Ala Val Lys Leu Glu
            35   40   45
Ser Gln Lys Val Lys His Pro Gln Leu Leu Tyr Glu Ser Lys Leu Tyr
      50   55   60
Thr Ile Leu Gln Gly Gly Val Gly Ile Pro His Met His Trp Tyr Gly
65   70   75   80
Gln Glu Lys Asp Asn Asn Val Leu Val Met Asp Leu Leu Gly Pro Ser
            85   90   95
Leu Glu Asp Leu Phe Asn Phe Cys Ser Arg Arg Phe Thr Met Lys Thr
            100   105   110
Val Leu Met Leu Ala Asp Gln Met Ile Ser Arg Ile Glu Tyr Val His
            115   120   125
Thr Lys Asn Phe Leu His Arg Asp Ile Lys Pro Asp Asn Phe Leu Met
      130   135   140
Gly Thr Gly Arg His Cys Asn Lys Leu Phe Leu Ile Asp Phe Gly Leu
145   150   155   160
Ala Lys Lys Tyr Arg Asp Asn Arg Thr Arg Gln His Ile Pro Tyr Arg
            165   170   175
Glu Asp Lys His Leu Ile Gly Thr Val Arg Tyr Ala Ser Ile Asn Ala
            180   185   190
His Leu Gly Ile Glu Gln Ser Arg Arg Asp Asp Met Glu Ser Leu Gly
      195   200   205
Tyr Val Phe Met Tyr Phe Asn Arg Thr Ser Leu Pro Trp Gln Gly Leu
      210   215   220
Arg Ala Met Thr Lys Lys Gln Lys Tyr Glu Lys Ile Ser Glu Lys Lys
225   230   235   240

```
Met Ser Thr Pro Val Glu Val Leu Cys Lys Gly Phe Pro Ala Glu Phe
             245                 250                 255
Ala Met Tyr Leu Asn Tyr Cys Arg Gly Leu Arg Phe Glu Glu Val Pro
             260                 265                 270
Asp Tyr Met Tyr Leu Arg Gln Leu Phe Arg Ile Leu Phe Arg Thr Leu
             275                 280                 285
Asn His Gln Tyr Asp Tyr Thr Phe Asp Trp Thr Met Leu Lys Gln Lys
         290                 295                 300
Ala Ala Gln Gln Ala Ala Ser Ser Ser Gly Gln Gly Gln Gln Ala Gln
305                 310                 315                 320
Thr Gln Thr Gly Lys Gln Thr Glu Lys Asn Lys Asn Asn Val Lys Asp
             325                 330                 335
Asn
```

<210> 33
<211> 888
<212> PRT
<213> Homo sapiens

<400> 33
```
Met Glu Ser Leu Leu Leu Pro Val Leu Leu Leu Leu Ala Ile Leu Trp
  1               5                  10                  15
Thr Gln Ala Ala Ala Leu Ile Asn Leu Lys Tyr Ser Val Glu Glu Glu
             20                  25                  30
Gln Arg Ala Gly Thr Val Ile Ala Asn Val Ala Lys Asp Ala Arg Glu
             35                  40                  45
Ala Gly Phe Ala Leu Asp Pro Arg Gln Ala Ser Ala Phe Arg Val Val
         50                  55                  60
Ser Asn Ser Ala Pro His Leu Val Asp Ile Asn Pro Ser Ser Gly Leu
65                  70                  75                  80
Leu Val Thr Lys Gln Lys Ile Asp Arg Asp Leu Leu Cys Arg Gln Ser
             85                  90                  95
Pro Lys Cys Ile Ile Ser Leu Glu Val Met Ser Ser Ser Met Glu Ile
             100                 105                 110
Cys Val Ile Lys Val Glu Ile Lys Asp Leu Asn Asp Asn Ala Pro Ser
             115                 120                 125
Phe Pro Ala Ala Gln Ile Glu Leu Glu Ile Ser Glu Ala Ala Ser Pro,
         130                 135                 140
```

```
Gly Thr Arg Ile Pro Leu Asp Ser Ala Tyr Asp Pro Asp Ser Gly Ser
145                 150                 155                 160
Phe Gly Val Gln Thr Tyr Glu Leu Thr Pro Asn Glu Leu Phe Gly Leu
                165                 170                 175
Glu Ile Lys Thr Arg Gly Asp Gly Ser Arg Phe Ala Glu Leu Val Val
                180                 185                 190
Glu Lys Ser Leu Asp Arg Glu Thr Gln Ser His Tyr Ser Phe Arg Ile
            195                 200                 205
Thr Ala Leu Asp Gly Gly Asp Pro Pro Arg Leu Gly Thr Val Gly Leu
        210                 215                 220
Ser Ile Lys Val Thr Asp Ser Asn Asp Asn Pro Val Phe Ser Glu
225                 230                 235                 240
Ser Thr Tyr Ala Val Ser Val Pro Glu Asn Ser Pro Pro Asn Thr Pro
                245                 250                 255
Val Ile Arg Leu Asn Ala Ser Asp Pro Asp Glu Gly Thr Asn Gly Gln
                260                 265                 270
Val Val Tyr Ser Phe Tyr Gly Tyr Val Asn Asp Arg Thr Arg Glu Leu
            275                 280                 285
Phe Gln Ile Asp Pro His Ser Gly Leu Val Thr Val Thr Gly Ala Leu
        290                 295                 300
Asp Tyr Glu Glu Gly His Val Tyr Glu Leu Asp Val Gln Ala Lys Asp
305                 310                 315                 320
Leu Gly Pro Asn Ser Ile Pro Ala His Cys Lys Val Thr Val Ser Val
                325                 330                 335
Leu Asp Thr Asn Asp Asn Pro Pro Val Ile Asn Leu Leu Ser Val Asn
                340                 345                 350
Ser Glu Leu Val Glu Val Ser Glu Ser Ala Pro Pro Gly Tyr Val Ile
            355                 360                 365
Ala Leu Val Arg Val Ser Asp Arg Asp Ser Gly Leu Asn Gly Arg Val
        370                 375                 380
Gln Cys Arg Leu Leu Gly Asn Val Pro Phe Arg Leu Gln Glu Tyr Glu
385                 390                 395                 400
Ser Phe Ser Thr Ile Leu Val Asp Gly Arg Leu Asp Arg Glu Gln His
                405                 410                 415
Asp Gln Tyr Asn Leu Thr Ile Gln Ala Arg Asp Gly Gly Val Pro Met
                420                 425                 430
Leu Gln Ser Ala Lys Ser Phe Thr Val Leu Ile Thr Asp Glu Asn Asp
            435                 440                 445
Asn His Pro His Phe Ser Lys Pro Tyr Tyr Gln Val Ile Val Gln Glu
        450                 455                 460
```

Asn Asn Thr Pro Gly Ala Tyr Leu Leu Ser Val Ser Ala Arg Asp Pro
465   470   475   480
Asp Leu Gly Leu Asn Gly Ser Val Ser Tyr Gln Ile Val Pro Ser Gln
                485   ·   490   495
Val Arg Asp Met Pro Val Phe Thr Tyr Val Ser Ile Asn Pro Asn Ser
            500   505   510
Gly Asp Ile Tyr Ala Leu Arg Ser Phe Asn His Glu Gln Thr Lys Ala
            515   520   525
Phe Glu Phe Lys Val Leu Ala Lys Asp Gly Gly Leu Pro Ser Leu Gln
            530   535   540
Ser Asn Ala Thr Val Arg Val Ile Ile Leu Asp Val Asn Asp Asn Thr
545   550   555   560
Pro Val Ile Thr Ala Pro Pro Leu Ile Asn Gly Thr Ala Glu Val Tyr
                565   570   575
Ile Pro Arg Asn Ser Gly Ile Gly Tyr Leu Val Thr Val Val Lys Ala
            580   585   590
Glu Asp Tyr Asp Glu Gly Glu Asn Gly Arg Val Thr Tyr Asp Met Thr
            595   600   ·   605
Glu Gly Asp Arg Gly Phe Phe Glu Ile Asp Gln Val Asn Gly Glu Val
    610   615   620
Arg Thr Thr Arg Thr Phe Gly Glu Ser Ser Lys Ser Ser Tyr Glu Leu
625   ·   630   635   640
Ile Val Val Ala His Asp His Gly Lys Thr Ser Leu Ser Ala Ser Ala
            645   650   655
Leu Val Leu Ile Tyr Leu Ser Pro Ala Leu Asp Ala Gln Glu Ser Met
            660   665   670
Gly Ser Val Asn Leu Ser Leu Ile Phe Ile Ile Ala Leu Gly Ser Ile
            675   680   685
Ala Gly Ile Leu Phe Val Thr Met Ile Phe Val Ala Ile Lys Cys Lys
    690   ·   695   700
Arg Asp Asn Lys Glu Ile Arg Thr Tyr Asn Cys Ser Asn Cys Leu Thr
705   710   715   720
Ile Thr Cys Leu Leu Gly Cys Phe Ile Lys Gly Gln Asn Ser Lys Cys
            725   730   735
Leu His Cys Ile Ser Val Ser Pro Ile Ser Glu Glu Gln Asp Lys Lys
            740   745   750
Thr Glu Glu Lys Val Ser Leu Arg Gly Lys Arg Ile Ala Glu Tyr Ser
            755   760   765
Tyr Gly His Gln Lys Lys Ser Ser Lys Lys Lys Lys Ile Ser Lys Asn
    770   775   780

Asp Ile Arg Leu Val Pro Arg Asp Val Glu Glu Thr Asp Lys Met Asn
785   790   795   800
Val Val Ser Cys Ser Ser Leu Thr Ser Ser Leu Asn Tyr Phe Asp Tyr
              805   810   815
His Gln Gln Thr Leu Pro Leu Gly Cys Arg Arg Ser Glu Ser Thr Phe
              820   825   830
Leu Asn Val Glu Asn Gln Asn Thr Arg Asn Thr Ser Ala Asn His Ile
              835   840   845
Tyr His His Ser Phe Asn Ser Gln Gly Pro Gln Gln Pro Asp Leu Ile
        850   855   860
Ile Asn Gly Val Pro Leu Pro Glu Val Ser Ala Ala Lys Trp Leu Cys
865   870   875   880
Glu Val Leu Pro Gly Leu Leu Leu
              885

<210> 34
<211> 855
<212> PRT
<213> Homo sapiens

<400> 34
Met Glu Ser Leu Leu Leu Pro Val Leu Leu Leu Ala Ile Leu Trp
  1   5   10   15
Thr Gln Ala Ala Ala Leu Ile Asn Leu Lys Tyr Ser Val Glu Glu Glu
            20   25   30
Gln Arg Ala Gly Thr Val Ile Ala Asn Val Ala Lys Asp Ala Arg Glu
            35   40   45
Ala Gly Phe Ala Leu Asp Pro Arg Gln Ala Ser Ala Phe Arg Val Val
        50   55   60
Ser Asn Ser Ala Pro His Leu Val Asp Ile Asn Pro Ser Ser Gly Leu
65   70   75   80
Leu Val Thr Lys Gln Lys Ile Asp Arg Asp Leu Leu Cys Arg Gln Ser
              85   90   95
Pro Lys Cys Ile Ile Ser Leu Glu Val Met Ser Ser Ser Met Glu Ile
              100   105   110
Cys Val Ile Lys Val Glu Ile Lys Asp Leu Asn Asp Asn Ala Pro Ser
              115   120   125
Phe Pro Ala Ala Gln Ile Glu Leu Glu Ile Ser Glu Ala Ala`Ser Pro
        130   135   140

```
Gly Thr Arg Ile Pro Leu Asp Ser Ala Tyr Asp Pro Asp Ser Gly Ser
145             150             155             160
Phe Gly Val Gln Thr Tyr Glu Leu Thr Pro Asn Glu Leu Phe Gly Leu
                165             170             175
Glu Ile Lys Thr Arg Gly Asp Gly Ser Arg Phe Ala Glu Leu Val Val
            180             185             190
Glu Lys Ser Leu Asp Arg Glu Thr Gln Ser His Tyr Ser Phe Arg Ile
            195             200             205
Thr Ala Leu Asp Gly Gly Asp Pro Pro Arg Leu Gly Thr Val Gly Leu
            210             215             220
Ser Ile Lys Val Thr Asp Ser Asn Asp Asn Pro Val Phe Ser Glu
225             230             235             240
Ser Thr Tyr Ala Val Ser Val Pro Glu Asn Ser Pro Pro Asn Thr Pro
                245             250             255
Val Ile Arg Leu Asn Ala Ser Asp Pro Asp Glu Gly Thr Asn Gly Gln
            260             265             270
Val Val Tyr Ser Phe Tyr Gly Tyr Val Asn Asp Arg Thr Arg Glu Leu
            275             280             285
Phe Gln Ile Asp Pro His Ser Gly Leu Val Thr Val Thr Gly Ala Leu
            290             295             300
Asp Tyr Glu Glu Gly His Val Tyr Glu Leu Asp Val Gln Ala Lys Asp
305             310             315             320
Leu Gly Pro Asn Ser Ile Pro Ala His Cys Lys Val Thr Val Ser Val
            325             330             335
Leu Asp Thr Asn Asp Asn Pro Pro Val Ile Asn Leu Leu Ser Val Asn
            340             345             350
Ser Glu Leu Val Glu Val Ser Glu Ser Ala Pro Pro Gly Tyr Val Ile
            355             360             365
Ala Leu Val Arg Val Ser Asp Arg Asp Ser Gly Leu Asn Gly Arg Val
            370             375             380
Gln Cys Arg Leu Leu Gly Asn Val Pro Phe Arg Leu Gln Glu Tyr Glu
385             390             395             400
Ser Phe Ser Thr Ile Leu Val Asp Gly Arg Leu Asp Arg Glu Gln His
                405             410             415
Asp Gln Tyr Asn Leu Thr Ile Gln Ala Arg Asp Gly Gly Val Pro Met
            420             425             430
Leu Gln Ser Ala Lys Ser Phe Thr Val Leu Ile Thr Asp Glu Asn Asp
            435             440             445
Asn His Pro His Phe Ser Lys Pro Tyr Tyr Gln Val Ile Val Gln Glu
            450             455             460
```

```
Asn Asn Thr Pro Gly Ala Tyr Leu Leu Ser Val Ser Ala Arg Asp Pro
465             470             475                     480
Asp Leu Gly Leu Asn Gly Ser Val Ser Tyr Gln Ile Val Pro Ser Gln
                485             490     Ile         495
Val Arg Asp Met Pro Val Phe Thr Tyr Val Ser Ile Asn Pro Asn Ser
            500             505             510
Gly Asp Ile Tyr Ala Leu Arg Ser Phe Asn His Glu Gln Thr Lys Ala
            515             520             525
Phe Glu Phe Lys Val Leu Ala Lys Asp Gly Gly Leu Pro Ser Leu Gln
    530             535             540
Ser Asn Ala Thr Val Arg Val Ile Ile Leu Asp Val Asn Asp Asn Thr
545             550             555             560
Pro Val Ile Thr Ala Pro Pro Leu Ile Asn Gly Thr Ala Glu Val Tyr
            565             570             575
Ile Pro Arg Asn Ser Gly Ile Gly Tyr Leu Val Thr Val Val Lys Ala
            580             585             590
Glu Asp Tyr Asp Glu Gly Glu Asn Gly Arg Val Thr Tyr Asp Met Thr
            595             600             605
Glu Gly Asp Arg Gly Phe Phe Glu Ile Asp Gln Val Asn Gly Glu Val
    610             615             620
Arg Thr Thr Arg Thr Phe Gly Glu Ser Ser Lys Ser Ser Tyr Glu Leu
625             630             635             640
Ile Val Val Ala His Asp His Gly Lys Thr Ser Leu Ser Ala Ser Ala
            645             650             655
Leu Val Leu Ile Tyr Leu Ser Pro Ala Leu Asp Ala Gln Glu Ser Met
            660             665             670
Gly Ser Val Asn Leu Ser Leu Ile Phe Ile Ile Ala Leu Gly Ser Ile
            675             680             685
Ala Gly Ile Leu Phe Val Thr Met Ile Phe Val Ala Ile Lys Cys Lys
            690             695             700
Arg Asp Asn Lys Glu Ile Arg Thr Tyr Asn Cys Arg Ile Ala Glu Tyr
705             710             715             720
Ser Tyr Gly His Gln Lys Lys Ser Ser Lys Lys Lys Ile Ser Lys
            725             730             735
Asn Asp Ile Arg Leu Val Pro Arg Asp Val Glu Glu Thr Asp Lys Met
            740             745             750
Asn Val Val Ser Cys Ser Ser Leu Thr Ser Ser Leu Asn Tyr Phe Asp
            755             760             765
Tyr His Gln Gln Thr Leu Pro Leu Gly Cys Arg Arg Ser Glu Ser Thr
770             775             780
```

```
Phe Leu Asn Val Glu Asn Gln Asn Thr Arg Asn Thr Ser Ala Asn His
785               790               795               800
Ile Tyr His His Ser Phe Asn Ser Gln Gly Pro Gln Gln Pro Asp Leu
                805               810               815
Ile Ile Asn Gly Val Pro Leu Pro Glu Thr Glu Asn Tyr Ser Phe Asp
            820               825               830
Ser Asn Tyr Val Asn Ser Arg Ala His Leu Ile Lys Arg Tyr Val Gly
        835                   840               845
Leu Leu Ala Tyr Cys Cys Asn
    850               855
```

<210> 35
<211> 329
<212> PRT
<213> Homo sapiens

<400> 35
```
Met Val Thr Lys Ala Phe Val Leu Leu Ala Ile Phe Ala Glu Ala Ser
 1               5                10                15
Ala Lys Ser Cys Ala Pro Asn Lys Ala Asp Val Ile Leu Val Phe Cys
            20                25                30
Tyr Pro Lys Thr Ile Ile Thr Lys Ile Pro Glu Cys Pro Tyr Gly Trp
            35                40                45
Glu Val His Gln Leu Ala Leu Gly Gly Leu Cys Tyr Asn Gly Val His
    50                55                60
Glu Gly Gly Tyr Tyr Gln Phe Val Ile Pro Asp Leu Ser Pro Lys Asn
65                70                75                80
Lys Ser Tyr Cys Gly Thr Gln Ser Glu Tyr Lys Pro Pro Ile Tyr His
            85                90                95
Phe Tyr Ser His Ile Val Ser Asn Asp Thr Thr Val Ile Val Lys Asn
            100               105               110
Gln Pro Val Asn Tyr Ser Phe Ser Cys Thr Tyr His Ser Thr Tyr Leu
        115               120               125
Val Asn Gln Ala Ala Phe Asp Gln Arg Val Ala Thr Val His Val Lys
    130               135               140
Asn Gly Ser Met Gly Thr Phe Glu Ser Gln Leu Ser Leu Asn Phe Tyr
145               150               155               160
Thr Asn Ala Lys Phe Ser Ile Lys Lys Glu Ala Pro Phe Val Leu Glu
            165               170               175
```

```
Ala Ser Glu Ile Gly Ser Asp Leu Phe Ala Gly Val Glu Ala Lys Gly
            180                 185                 190
Leu Ser Ile Arg Phe Lys Val Val Leu Asn Ser Cys Trp Ala Thr Pro
            195                 200                 205
Ser Ala Asp Phe Met Tyr Pro Leu Gln Trp Gln Leu Ile Asn Lys Gly
        210                 215                 220
Cys Pro Thr Asp Glu Thr Val Leu Val His Glu Asn Gly Arg Asp His
225                 230                 235                 240
Arg Ala Thr Phe Gln Phe Asn Ala Phe Arg Phe Gln Asn Ile Pro Lys
                245                 250                 255
Leu Ser Lys Val Trp Leu His Cys Glu Thr Phe Ile Cys Asp Ser Glu
            260                 265                 270
Lys Leu Ser Cys Pro Val Thr Cys Asp Lys Arg Lys Arg Leu Leu Arg
            275                 280                 285
Asp Gln Thr Gly Gly Val Leu Val Val Glu Leu Ser Leu Arg Ser Arg
        290                 295                 300
Gly Phe Ser Ser Leu Tyr Ser Phe Ser Asp Val Leu His His Leu Ile
305                 310                 315                 320
Met Met Leu Gly Ile Cys Ala Val Leu
                325
```


<210> 36
<211> 232
<212> PRT
<213> Homo sapiens

<400> 36
```
Met Leu Tyr Thr Arg Lys Asn Leu Thr Cys Ala Gln Thr Ile Asn Ser
  1                 5                  10                  15
Ser Ala Phe Gly Asn Leu Asn Val Thr Lys Lys Thr Thr Phe Ile Val
            20                  25                  30
His Gly Phe Arg Pro Thr Gly Ser Pro Val Trp Met Asp Asp Leu
        35                  40                  45
Val Lys Gly Leu Leu Ser Val Glu Asp Met Asn Val Val Val Asp
        50                  55                  60
Trp Asn Arg Gly Ala Thr Thr Leu Ile Tyr Thr His Ala Ser Ser Lys
65                  70                  75                  80
Thr Arg Lys Val Ala Met Val Leu Lys Glu Phe Ile Asp Gln Met Leu
                85                  90                  95
```

```
Ala Glu Gly Ala Ser Leu Asp Asp Ile Tyr Met Ile Gly Val Ser Leu
            100                 105                 110
Gly Ala His Ile Ser Gly Phe Val Gly Glu Met Tyr Asp Gly Trp Leu
            115                 120                 125
Gly Arg Ile Thr Gly Leu Asp Pro Ala Gly Pro Leu Phe Asn Gly Lys
        130                 135                 140
Pro His Gln Asp Arg Leu Asp Pro Ser Asp Ala Gln Phe Val Asp Val
145                 150                 155                 160
Ile His Ser Asp Thr Asp Gly Asn Ala Pro Phe Leu Val Ala Leu Gly
            165                 170                 175
Tyr Lys Glu Pro Leu Gly Asn Ile Asp Phe Tyr Pro Asn Gly Gly Leu
            180                 185                 190
Asp Gln Pro Gly Cys Pro Lys Thr Ile Leu Gly Gly Asn Val Lys Glu
        195                 200                 205
Met Ile Gln Ala Ser Tyr Ile Phe Phe Leu Lys Asn Asp Ser Met Asp
    210                 215                 220
Leu Ser Ser Pro Lys Glu Val Glu
225                 230


<210> 37
<211> 452
<212> PRT
<213> Homo sapiens

<400> 37
Met Leu Arg Phe Tyr Leu Phe Ile Ser Leu Leu Cys Leu Ser Arg Ser
  1               5                  10                  15
Asp Ala Glu Glu Thr Cys Pro Ser Phe Thr Arg Leu Ser Phe His Ser
            20                  25                  30
Ala Val Val Gly Thr Gly Leu Asn Val Arg Leu Met Leu Tyr Thr Arg
        35                  40                  45
Lys Asn Leu Thr Cys Ala Gln Thr Ile Asn Ser Ser Ala Phe Gly Asn
    50                  55                  60
Leu Asn Val Thr Lys Lys Thr Thr Phe Ile Val His Gly Phe Arg Pro
65                  70                  75                  80
Thr Gly Ser Pro Pro Val Trp Met Asp Asp Leu Val Lys Gly Leu Leu
            85                  90                  95
Ser Val Glu Asp Met Asn Val Val Val Asp Trp Asn Arg Gly Ala
            100                 105                 110
```

Thr Thr Leu Ile Tyr Thr His Ala Ser Ser Lys Thr Arg Lys Val Ala
        115   120   125

Met Val Leu Lys Glu Phe Ile Asp Gln Met Leu Ala Glu Gly Ala Ser
        130   135   140

Leu Asp Asp Ile Tyr Met Ile Gly Val Ser Leu Gly Ala His Ile Ser
145   150   155   160

Gly Phe Val Gly Glu Met Tyr Asp Gly Trp Leu Gly Arg Ile Thr Gly
                165   170   175

Leu Asp Pro Ala Gly Pro Leu Phe Asn Gly Lys Pro His Gln Asp Arg
                180   185   190

Leu Asp Pro Ser Asp Ala Gln Phe Val Asp Val Ile His Ser Asp Thr
                195   200   205

Asp Ala Leu Gly Tyr Lys Glu Pro Leu Gly Asn Ile Asp Phe Tyr Pro
        210   215   220

Asn Gly Gly Leu Asp Gln Pro Gly Cys Pro Lys Thr Ile Leu Gly Gly
225   230   235   240

Phe Gln Tyr Phe Lys Cys Asp His Gln Arg Ser Val Tyr Leu Tyr Leu
                245   250   255

Ser Ser Leu Arg Glu Ser Cys Thr Ile Thr Ala Tyr Pro Cys Asp Ser
                260   265   270

Tyr Gln Asp Tyr Arg Asn Gly Lys Cys Val Ser Cys Gly Thr Ser Gln
                275   280   285

Lys Glu Ser Cys Pro Leu Leu Gly Tyr Tyr Ala Asp Asn Trp Lys Asp
        290   295   300

His Leu Arg Gly Lys Asp Pro Pro Met Thr Lys Ala Phe Phe Asp Thr
305   310   315   320

Ala Glu Glu Ser Pro Phe Cys Met Tyr His Tyr Phe Val Asp Ile Ile
                325   330   335

Thr Trp Asp Lys Asn Val Arg Arg Gly Asp Ile Thr Ile Lys Leu Arg
                340   345   350

Asp Lys Ala Gly Asn Thr His Arg Ser Lys Ile Ile Ser Asn Glu Pro
                355   360   365

Thr Thr Phe Gln Lys Tyr His Gln Val Ser Leu Leu Ala Arg Phe Asn
        370   375   380

Gln Asp Leu Asp Lys Val Ala Ala Ile Ser Leu Met Phe Ser Thr Gly
385   390   395   400

Ser Leu Ile Gly Pro Arg Tyr Lys Leu Arg Ile Leu Arg Met Lys Leu
                405   410   415

Arg Ser Leu Ala His Pro Glu Arg Pro Gln Leu Cys Arg Tyr Asp Leu
                420   425   430

Val Leu Met Glu Asn Val Glu Thr Val Phe Gln Pro Ile Leu Cys Pro
        435   440   445
Glu Leu Gln Leu
      450

<210> 38
<211> 450
<212> PRT
<213> Homo sapiens

<400> 38
Met Gly Leu Arg Ser His His Leu Ser Leu Gly Leu Leu Leu Leu Phe
 1   5   10   15
Leu Leu Pro Ala Glu Cys Leu Gly Ala Glu Gly Arg Leu Ala Leu Lys
          20   25   30
Leu Phe Arg Asp Leu Phe Ala Asn Tyr Thr Ser Ala Leu Arg Pro Val
        35   40   45
Ala Asp Thr Asp Gln Thr Leu Asn Val Thr Leu Glu Val Thr Leu Ser
      50   55   60
Gln Ile Ile Asp Met Asp Glu Arg Asn Gln Val Leu Thr Leu Tyr Leu
65   70   75   80
Trp Ile Arg Gln Glu Trp Thr Asp Ala Tyr Leu Arg Trp Asp Pro Asn
                85   90   95
Ala Tyr Gly Gly Leu Asp Ala Ile Arg Ile Pro Ser Ser Leu Val Trp
            100   105   110
Arg Pro Asp Ile Val Leu Tyr Asn Lys Ala Asp Ala Gln Pro Pro Gly
          115   120   125
Ser Ala Ser Thr Asn Val Val Leu Arg His Asp Gly Ala Val Arg Trp
      130   135   140
Asp Ala Pro Ala Ile Thr Arg Ser Ser Cys Arg Val Asp Val Ala Ala
145   150   155   160
Phe Pro Phe Asp Ala Gln His Cys Gly Leu Thr Phe Gly Ser Trp Thr
                165   170   175
His Gly Gly His Gln Leu Asp Val Arg Pro Arg Gly Ala Ala Ala Ser
            180   185   190
Leu Ala Asp Phe Val Glu Asn Val Glu Trp Arg Val Leu Gly Met Pro
          195   200   205
Ala Arg Arg Arg Val Leu Thr Tyr Gly Cys Cys Ser Glu Pro Tyr Pro
      210   215   220

Asp Val Thr Phe Thr Leu Leu Leu Arg Arg Arg Ala Ala Ala Tyr Val
225   230   235   240
Cys Asn Leu Leu Leu Pro Cys Val Leu Ile Ser Leu Leu Ala Pro Leu
                245   250   255
Ala Phe His Leu Pro Ala Asp Ser Gly Glu Lys Val Ser Leu Gly Val
            260   265   270
Thr Val Leu Leu Ala Leu Thr Val Phe Gln Leu Leu Leu Ala Glu Ser
            275   280   285
Met Pro Pro Ala Glu Ser Val Pro Leu Ile Gly Lys Tyr Tyr Met Ala
        290   295   300
Thr Met Thr Met Val Thr Phe Ser Thr Ala Leu Thr Ile Leu Ile Met
305   310   315   320
Asn Leu His Tyr Cys Gly Pro Ser Val Arg Pro Val Pro Ala Trp Ala
            325   330   335
Arg Ala Leu Leu Leu Gly His Leu Ala Arg Gly Leu Cys Val Arg Glu
            340   345   350
Arg Gly Glu Pro Cys Gly Gln Ser Arg Pro Pro Glu Leu Ser Pro Ser
        355   360   365
Pro Gln Ser Pro Glu Gly Gly Ala Gly Pro Pro Ala Gly Pro Cys His
        370   375   380
Glu Pro Arg Cys Leu Cys Arg Gln Glu Ala Leu Leu His His Val Ala
385   390   395   400
Thr Ile Ala Asn Thr Phe Arg Ser His Arg Ala Ala Gln Arg Cys His
            405   410   415
Glu Asp Trp Lys Arg Leu Ala Arg Val Met Asp Arg Phe Phe Leu Ala
            420   425   430
Ile Phe Phe Ser Met Ala Leu Val Met Ser Leu Leu Val Leu Val Gln
        435   440   445
Ala Leu
    450

<210> 39
<211> 255
<212> PRT
<213> Homo sapiens

<400> 39
Met Val Lys Gly Glu Lys Gly Pro Lys Gly Lys Lys Ile Thr Leu Lys
 1   5   10   15

```
Val Ala Arg Asn Cys Ile Lys Ile Thr Phe Asp Gly Lys Lys Arg Leu
             20                  25                  30
Asp Leu Ser Lys Met Gly Ile Thr Thr Phe Pro Lys Cys Ile Leu Arg
             35                  40                  45
Leu Ser Asp Met Asp Glu Leu Asp Leu Ser Arg Asn Leu Ile Arg Lys
         50                  55                  60
Ile Pro Asp Ser Ile Ser Lys Phe Gln Asn Leu Arg Trp Leu Asp Leu
65                  70                  75                  80
His Ser Asn Tyr Ile Asp Lys Leu Pro Glu Ser Ile Gly Gln Met Thr
                 85                  90                  95
Ser Leu Leu Tyr Leu Asn Val Ser Asn Asn Arg Leu Thr Ser Asn Gly
             100                 105                 110
Leu Pro Val Glu Leu Lys Gln Leu Lys Asn Ile Arg Ala Val Asn Leu
         115                 120                 125
Gly Leu Asn His Leu Asp Ser Val Pro Thr Thr Leu Gly Ala Leu Lys
         130                 135                 140
Glu Leu His Glu Val Gly Leu His Asp Asn Leu Leu Asn Asn Ile Pro
145                 150                 155                 160
Val Ser Ile Ser Lys Leu Pro Lys Leu Lys Lys Leu Asn Ile Lys Arg
                 165                 170                 175
Asn Pro Phe Pro Lys Pro Gly Glu Ser Glu Ile Phe Ile Asp Ser Ile
             180                 185                 190
Arg Arg Leu Glu Asn Leu Tyr Val Val Glu Glu Lys Asp Leu Cys Ala
         195                 200                 205
Ala Cys Leu Arg Lys Cys Gln Asn Ala Arg Asp Asn Leu Asn Arg Ile
         210                 215                 220
Lys Asn Met Ala Thr Thr Thr Pro Arg Lys Thr Ile Phe Pro Asn Leu
225                 230                 235                 240
Ile Ser Pro Asn Ser Met Ala Lys Asp Ser Trp Glu Asp Trp Arg
                 245                 250                 255


<210> 40
<211> 214
<212> PRT
<213> Homo sapiens

<400> 40
Met Gln Ala Gly Thr Gln Ser Thr His Glu Ser Leu Lys Pro Gln Arg
 1               5                   10                  15
```

Val Gln Phe Gln Ser Arg Asn Phe His Asn Ile Leu Gln Trp Gln Pro
              20   25   30
Gly Arg Ala Leu Thr Gly Asn Ser Ser Val Tyr Phe Val Gln Tyr Lys
              35   40   45
Ile Tyr Gly Gln Arg Gln Trp Lys Asn Lys Glu Asp Cys Trp Gly Thr
    50   55   ·   60
Gln Glu Leu Ser Cys Asp Leu Thr Ser Glu Thr Ser Asp Ile Gln Glu
65   70   75   80
Pro Tyr Tyr Gly Arg Val Arg Ala Ala Ser Ala Gly Ser Tyr Ser Glu
              85   90   95
Trp Ser Met Thr Pro Arg Phe Thr Pro Trp Trp Glu Thr Lys Ile Asp
              100   105   110
Pro Pro Val Met Asn Ile Thr Gln Val Asn Gly Ser Leu Leu Val Ile
              115   120   125
Leu His Ala Pro Asn Leu Pro Tyr Arg Tyr Gln Lys Glu Lys Asn Val
    130   135   140
Ser Ile Glu Asp Tyr Tyr Glu Leu Leu Tyr Arg Val Phe Ile Ile Asn
145   150   155   160
Asn Ser Leu Glu Lys Glu Gln Lys Val Tyr Glu Gly Ala His Arg Ala
              165   170   175
Val Glu Ile Glu Ala Leu Thr Pro His Ser Ser Tyr Cys Val Val Ala
              180   185   190
Glu Ile Tyr Gln Pro Met Leu Asp Arg Arg Ser Gln Arg Ser Glu Glu
       195   200   205
Arg Cys Val Glu Ile Pro
    210

<210> 41
<211> 231
<212> PRT
<213> Homo sapiens

<400> 41
Met Met Pro Lys His Cys Phe Leu Gly Phe Leu Ile Ser Phe Phe Leu
 1   5   10   15
Thr Gly Val Ala Gly Thr Gln Ser Thr His Glu Ser Leu Lys Pro Gln
              20   25   30
Arg Val Gln Phe Gln Ser Arg Asn Phe His Asn Ile Leu Gln Trp Gln
              35   40   ·   45

Pro Gly Arg Ala Leu Thr Gly Asn Ser Ser Val Tyr Phe Val Gln Tyr
    50   55   60

Lys Ile Tyr Gly Gln Arg Gln Trp Lys Asn Lys Glu Asp Cys Trp Gly
65   70   75   80

Thr Gln Glu Leu Ser Cys Asp Leu Thr Ser Glu Thr Ser Asp Ile Gln
                85   90   95

Glu Pro Tyr Tyr Gly Arg Val Arg Ala Ala Ser Ala Gly Ser Tyr Ser
            100   105   110

Glu Trp Ser Met Thr Pro Arg Phe Thr Pro Trp Trp Glu Thr Lys Ile
        115   120   125

Asp Pro Pro Val Met Asn Ile Thr Gln Val Asn Gly Ser Leu Leu Val
    130   135   140

Ile Leu His Ala Pro Asn Leu Pro Tyr Arg Tyr Gln Lys Glu Lys Asn
145   150   155   160

Val Ser Ile Glu Asp Tyr Tyr Glu Leu Leu Tyr Arg Val Phe Ile Ile
            165   170   175

Asn Asn Ser Leu Glu Lys Glu Gln Lys Val Tyr Glu Gly Ala His Arg
            180   185   190

Ala Val Glu Ile Glu Ala Leu Thr Pro His Ser Ser Tyr Cys Val Val
        195   200   205

Ala Glu Ile Tyr Gln Pro Met Leu Asp Arg Arg Ser Gln Arg Ser Glu
    210   215   220

Glu Arg Cys Val Glu Ile Pro
225   230

<210> 42
<211> 263
<212> PRT
<213> Homo sapiens

<400> 42
Met Met Pro Lys His Cys Phe Leu Gly Phe Leu Ile Ser Phe Phe Leu
 1   5   10   15

Thr Gly Val Ala Gly Thr Gln Ser Thr His Glu Ser Leu Lys Pro Gln
            20   25   30

Arg Val Gln Phe Gln Ser Arg Asn Phe His Asn Ile Leu Gln Trp Gln
        35   40   45

Pro Gly Arg Ala Leu Thr Gly Asn Ser Ser Val Tyr Phe Val Gln Tyr
    50   55   60

Lys Ile Met Phe Ser Cys Ser Met Lys Ser Ser His Gln Lys Pro Ser
65   70   75   80
Gly Cys Trp Gln His Ile Ser Cys Asn Phe Pro Gly Cys Arg Thr Leu
                    85   90   95
Ala Lys Tyr Gly Gln Arg Gln Trp Lys Asn Lys Glu Asp Cys Trp Gly
                100   105   110
Thr Gln Glu Leu Ser Cys Asp Leu Thr Ser Glu Thr Ser Asp Ile Gln
            115   120   125
Glu Pro Tyr Tyr Gly Arg Val Arg Ala Ala Ser Ala Gly Ser Tyr Ser
        130   135   140
Glu Trp Ser Met Thr Pro Arg Phe Thr Pro Trp Trp Glu Thr Lys Ile
145   150   155   160
Asp Pro Pro Val Met Asn Ile Thr Gln Val Asn Gly Ser Leu Leu Val
                165   170   175
Ile Leu His Ala Pro Asn Leu Pro Tyr Arg Tyr Gln Lys Glu Lys Asn
                180   185   190
Val Ser Ile Glu Asp Tyr Tyr Glu Leu Leu Tyr Arg Val Phe Ile Ile
            195   200   205
Asn Asn Ser Leu Glu Lys Glu Gln Lys Val Tyr Glu Gly Ala His Arg
        210   215   220
Ala Val Glu Ile Glu Ala Leu Thr Pro His Ser Ser Tyr Cys Val Val
225   230   235   240
Ala Glu Ile Tyr Gln Pro Met Leu Asp Arg Arg Ser Gln Arg Ser Glu
                245   250   255
Glu Arg Cys Val Glu Ile Pro
                260

                                                  ⌣

<210> 43
<211> 259
<212> PRT
<213> Homo sapiens

<400> 43
Met Tyr Val Leu Ser Pro Val Glu Phe Ile Ile Leu Gln Leu Leu Phe
 1   5   10   15
Ile Gln Ala Ile Ser Ser Ser Leu Lys Gly Phe Leu Ser Ala Met Arg
                20   25   30
Leu Ala His Arg Gly Cys Asn Val Asp Thr Pro Val Ser Thr Leu Thr
            35   40   45

```
Pro Val Lys Thr Ser Glu Phe Glu Asn Phe Lys Thr Lys Met Val Ile
    50                  55                  60
Thr Ser Lys Lys Asp Tyr Pro Leu Ser Lys Asn Phe Pro Tyr Ser Leu
65                  70                  75                  80
Glu His Leu Gln Thr Ser Tyr Cys Gly Leu Val Arg Val Asp Met Arg
                85                  90                  95
Met Leu Cys Leu Lys Ser Leu Arg Lys Leu Asp Leu Ser His Asn His
            100                 105                 110
Ile Lys Lys Leu Pro Ala Thr Ile Gly Asp Leu Ile His Leu Gln Glu
            115                 120                 125
Leu Asn Leu Asn Asp Asn His Leu Glu Ser Phe Ser Val Ala Leu Cys
    130                 135                 140
His Ser Thr Leu Gln Lys Ser Leu Arg Ser Leu Asp Leu Ser Lys Asn
145                 150                 155                 160
Lys Ile Lys Ala Leu Pro Val Gln Phe Cys Gln Leu Gln Glu Leu Lys
                165                 170                 175
Asn Leu Lys Leu Asp Asp Asn Glu Leu Ile Gln Phe Pro Cys Lys Ile
            180                 185                 190
Gly Gln Leu Ile Asn Leu Arg Phe Leu Ser Ala Ala Arg Asn Lys Leu
            195                 200                 205
Pro Phe Leu Pro Ser Glu Phe Arg Asn Leu Ser Leu Glu Tyr Leu Asp
    210                 215                 220
Leu Phe Gly Asn Thr Phe Glu Gln Pro Lys Val Leu Pro Val Ile Lys
225                 230                 235                 240
Leu Gln Ala Pro Leu Thr Leu Leu Glu Ser Ser Ala Arg Thr Ile Leu
                245                 250                 255
His Asn Arg



<210> 44
<211> 416
<212> PRT
<213> Homo sapiens

<400> 44
Met Lys Leu His Cys Glu Val Glu Val Ile Ser Arg His Leu Pro Ala
 1               5                  10                  15
Leu Gly Leu Arg Asn Arg Gly Lys Gly Val Arg Ala Val Leu Ser Leu
            20                  25                  30
```

Cys Gln Gln Thr Ser Arg Ser Gln Pro Pro Val Arg Ala Phe Leu Leu
        35   40   45
Ile Ser Thr Leu Lys Asp Lys Arg Gly Thr Arg Tyr Glu Leu Arg Glu
        50   55   60
Asn Ile Glu Gln Phe Phe Thr Lys Phe Val Asp Glu Gly Lys Ala Thr
65   70   75   80
Val Arg Leu Lys Glu Pro Pro Val Asp Ile Cys Leu Ser Lys Ala Ile
                85   90   95
Ser Ser Ser Leu Lys Gly Phe Leu Ser Ala Met Arg Leu Ala His Arg
                100   105   110
Gly Cys Asn Val Asp Thr Pro Val Ser Thr Leu Thr Pro Val Lys Thr
        115   120   125
Ser Glu Phe Glu Asn Phe Lys Thr Lys Met Val Ile Thr Ser Lys Lys
        130   135   140
Asp Tyr Pro Leu Ser Lys Asn Phe Pro Tyr Ser Leu Glu His Leu Gln
145   150   155   160
Thr Ser Tyr Cys Gly Leu Val Arg Val Asp Met Arg Met Leu Cys Leu
                165   170   175
Lys Ser Leu Arg Lys Leu Asp Leu Ser His Asn His Ile Lys Lys Leu
                180   185   190
Pro Ala Thr Ile Gly Asp Leu Ile His Leu Gln Glu Leu Asn Leu Asn
        195   200   205
Asp Asn His Leu Glu Ser Phe Ser Val Ala Leu Cys His Ser Thr Leu
        210   215   220
Gln Lys Ser Leu Arg Ser Leu Asp Leu Ser Lys Asn Lys Ile Lys Ala
225   230   235   240
Leu Pro Val Gln Phe Cys Gln Leu Gln Glu Leu Lys Asn Leu Lys Leu
                245   250   255
Asp Asp Asn Glu Leu Ile Gln Phe Pro Cys Lys Ile Gly Gln Leu Ile
                260   265   270
Asn Leu Arg Phe Leu Ser Ala Ala Arg Asn Lys Leu Pro Phe Leu Pro
        275   280   285
Ser Glu Phe Arg Asn Leu Ser Leu Glu Tyr Leu Asp Leu Phe Gly Asn
        290   295   300
Thr Phe Glu Gln Pro Lys Val Leu Pro Val Ile Lys Leu Gln Ala Pro
305   310   315   320
Leu Thr Leu Leu Glu Ser Ser Ala Arg Thr Ile Leu His Asn Arg Asn
                325   330   335
Arg Ile Pro Tyr Gly Ser His Ile Ile Pro Phe His Leu Cys Gln Asp
        340   345   350

Leu Asp Thr Ala Lys Ile Cys Val Cys Gly Arg Phe Cys Leu Asn Ser
        355   360   365
Phe Ile Gln Gly Thr Thr Thr Met Asn Leu His Ser Val Ala His Thr
        370   375   380
Val Val Leu Val Asp Asn Leu Gly Gly Thr Glu Ala Pro Ile Ile Ser
385   390   395   400
Tyr Phe Cys Ser Leu Gly Cys Tyr Val Asn Ser Ser Asp Met Leu Lys
                405   410   415

<210> 45
<211> 990
<212> DNA
<213> Mus musculus

<400> 45
atggtggtca gggccttcgt tttgctggcc ctctttgcag aagcctcagc gaaatcatgc 60
actccgaata aagcagatgt catccttgtg ttttgttatc ccaagaccat catcactaaa 120
atccccgagt gtccctatgg atgggaagta caccagctgg cactcggggg gctgtgttac 180
aacggggtcc atgaaggtgg ctattaccag tttgtcatcc ctgatctgtc acctaagaac 240
aagtcctact gcggaaccca gtcagagtac aagccccca tctaccactt ctacagccac 300
atcgtgtcca cgacagcac agtgatcgtg aagaaccagc ccgtcaacta ctccttctcc 360
tgcacctacc actccaccta cttggtgaac caggctgctt ttgaccagag agtggccact 420
gttcacgtca gaacgggag catgggcaca tttgaaagcc agttgtccct caacttctac 480
actaatgcca gttttccac caaaaaagaa gctcccttcg ttctggaaac gtccgaaatc 540
ggctcagatc tgtttgcggg agtagaagcc aaaggcctaa gcgttcggtt caaagtggtc 600
ttgaatagct gctgggccac cccctcggct gacttcatgt accccttaca gtggcagctc 660
atcaataagg gctgccccac cgatgagaca gtcctcgtgc atgagaacgg caaagaccac 720
agggccactt ccaattcaa tgccttccgg ttccagaaca tccccaaact ttccaaggtt 780
tggttacact gtgagacgtt catctgcgac agtgagaagc tctcctgccc cgtgaactgt 840
gacaaacgga agcgcatgct acgtgaccag acaggaggtg tcctggttgt ggagttgtcc 900
ctgaggagca gggcattttc cggcctctgt gacttctcag atgttcttct tcacctcatc 960
ctgatgctgg ggacctgggc tgtgttgtag   990

<210> 46
<211> 329
<212> PRT
<213> Mus musculus

<400> 46

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Met Val Val Arg Ala Phe Val Leu Leu Ala Leu Phe Ala Glu Ala Ser
1                5                10              15
Ala Lys Ser Cys Thr Pro Asn Lys Ala Asp Val Ile Leu Val Phe Cys
            20              25              30
Tyr Pro Lys Thr Ile Ile Thr Lys Ile Pro Glu Cys Pro Tyr Gly Trp
        35              40              45
Glu Val His Gln Leu Ala Leu Gly Gly Leu Cys Tyr Asn Gly Val His
    50              55              60
Glu Gly Gly Tyr Tyr Gln Phe Val Ile Pro Asp Leu Ser Pro Lys Asn
65              70              75              80
Lys Ser Tyr Cys Gly Thr Gln Ser Glu Tyr Lys Pro Pro Ile Tyr His
            85              90              95
Phe Tyr Ser His Ile Val Ser Asn Asp Ser Thr Val Ile Val Lys Asn
            100             105             110
Gln Pro Val Asn Tyr Ser Phe Ser Cys Thr Tyr His Ser Thr Tyr Leu
    115             120             125
Val Asn Gln Ala Ala Phe Asp Gln Arg Val Ala Thr Val His Val Lys
    130             135             140
Asn Gly Ser Met Gly Thr Phe Glu Ser Gln Leu Ser Leu Asn Phe Tyr
145             150             155             160
Thr Asn Ala Lys Phe Ser Thr Lys Lys Glu Ala Pro Phe Val Leu Glu
            165             170             175
Thr Ser Glu Ile Gly Ser Asp Leu Phe Ala Gly Val Glu Ala Lys Gly
            180             185             190
Leu Ser Val Arg Phe Lys Val Val Leu Asn Ser Cys Trp Ala Thr Pro
    195             200             205
Ser Ala Asp Phe Met Tyr Pro Leu Gln Trp Gln Leu Ile Asn Lys Gly
    210             215             220
Cys Pro Thr Asp Glu Thr Val Leu Val His Glu Asn Gly Lys Asp His
225             230             235             240
Arg Ala Thr Phe Gln Phe Asn Ala Phe Arg Phe Gln Asn Ile Pro Lys
            245             250             255
Leu Ser Lys Val Trp Leu His Cys Glu Thr Phe Ile Cys Asp Ser Glu
            260             265             270
Lys Leu Ser Cys Pro Val Asn Cys Asp Lys Arg Lys Arg Met Leu Arg
            275             280             285
Asp Gln Thr Gly Gly Val Leu Val Val Glu Leu Ser Leu Arg Ser Arg
    290             295             300
Ala Phe Ser Gly Leu Cys Asp Phe Ser Asp Val Leu Leu His Leu Ile
    305             310             315             320
```

Leu Met Leu Gly Thr Trp Ala Val Leu
325